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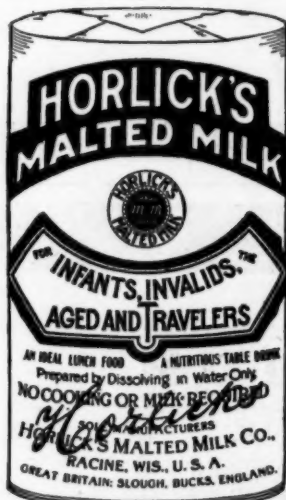
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## General Scientific

### A PRELIMINARY REPORT OF THE RESULTS OF TREATMENT OF ONE HUNDRED AND FIVE CASES OF SYPHILIS.\*

EDWARD H. MARSH, M. D.

ASSISTANT PHYSICIAN, DEPARTMENT OF DERMATOLOGY, CORNELL UNIVERSITY MEDICAL COLLEGE DISPENSARY; ASSOCIATE DERMATOLOGIST, JEWISH HOSPITAL OF BROOKLYN; ATTENDING DERMATOLOGIST, DISPENSARY OF JEWISH HOSPITAL; ATTENDING DERMATOLOGIST, HARBOR HOSPITAL, Brooklyn.

From February, 1914, to August, 1915, a period of eighteen months, we saw in one service of the Dermatological Department of Cornell Clinic, 367 patients suffering with syphilis. Of this number 105 remained under observation a sufficient length of time to have some statistical value. Of these patients 87 were treated with small doses of salvarsan and mercury. At the beginning of the work we administered 0.3 gm. of salvarsan as a dose, but only in a very few cases, after which the dose administered to all was 0.2 gm. The dose of mercury salicylate was in practically all 0.1 gm. The 105 cases included 2 primary, with a negative Wassermann reaction; 35 secondary; 6 late secondary; 5 latent cases of recent origin; 29 latent cases which were old infections; 13 gummata; 1 peripheral neuritis; 6 cases in which the cranial nerves were involved; 9 cerebro-spinal cases. The Wassermann reaction was made in nearly all cases before treatment was instituted and in all cases at least one month elapsed following the cessation of treatment before the reaction was again made.

The primary cases were two in number; in both the Wassermann reaction was negative, and the diagnosis was confirmed by the demonstration of spirochaeta pallida with the ultramicroscope. Both patients became clinically well after one course of treatment, consisting of five injections salvarsan (0.2 gm. each) and ten injections of mercury. The Wassermann reaction was negative. Both patients disappeared and no subsequent examinations have been made.

Case	spirochaeta	W.R.	duration	treatment	clinical result	W.R.
1	positive	0	3 weeks	5 606 & 10 Hg	cured	0
2	positive	0	8 days	5 606 & 10 Hg	cured	0

The early secondary type includes thirty-five cases. The Wassermann reaction was 4+ in 19; 3+ in 1; 2+ in 2; 1+ in 1; positive (degree not specified) in 1; the reaction was not determined in eleven patients because of the delay it would entail and our anxiety to get the disease under control as soon as possible, for in all of these the disease was clinically severe. Included in this group of thirty-five patients are some of the less common manifestations of syphilis; cases 5 and 14 each suffered with a corymbiform eruption and later while under treatment each developed a severe irido-cyclitis; two, 4 and 17 suffered with a pustular syphiloderm and three, 10, 15 and 16 had rupia. Two cases 15 and 37 had severe arthritis. In No. 15 the elbow alone was affected, the joint becoming red, swollen, tender and painful with complete loss of mobility. No. 37 had a more general arthritis, the wrists, elbows, and ankles being involved, with redness, swelling, tenderness and lost mobility. In both patients the arthritic symptoms cleared up immediately following the first injection of salvarsan. The duration of the infection in the thirty-five patients was from two weeks to nine months. Case No. 9 came under our observation because of the existent disease in her husband, No. 11; she was pregnant at the time and physical examination for syphilis was absolutely negative except for a small fissure in one nostril, which may or may not have been a syphilitic manifestation; the Wassermann reaction, however, was 4+. Nineteen or 54.3% became negative following treatment; 4 or 11.4% have remained so for one year or more; 6 or 17.1% have remained negative for from 6 months to one year; 9 or 25.4% have been negative for from one to six months.

Case	type	duration	W.R.	treatment	W.R.
3	roseola	2 weeks	4+	5 606 & 10 Hg	0-1 year
4	pustular		4+	5 606 & 30 Hg	0-1 year
5	corymbiform		4+	13 606 & 13 Hg	0-1 year
6	macular	3 months	4+	9 606 & 20 Hg	0-15 months
7	macular		4+	5 606 & 12 Hg	0-11 months
8	macular	2 months	4+	5 606 & 48 Hg	0-8 months
9	negative		4+	1 606 & 12 Hg	0-7 months
10	rupia	3 months	4+	5 606 & 17 Hg	0-6 months
11	papular	2 months	4+	3 606 & 13 Hg	0-4 months
12	papular	2 months	4+	5 606 & 13 Hg	0-2 months
13	roseola	2 months	4+	5 606 & 5 Hg	0-2 months
14	corymbiform	2 months	2+	9 606 & 19 Hg	0-6 months
15	rupia, arthritis	6 weeks	2+	8 606 & 30 Hg	0-2 months
16	rupia		4+	5 606 & 10 Hg	0
17	pustular	4 months	4+	2 606 & 5 Hg	0-6 months
18	papular	2 months	4+	5 606 & 1 Hg	0-2 months
19	roseola	2 months	pos.	10 606 & 2 Hg	0
20	roseola			13 606 & 31 Hg	±
21	adenopathies	4 months		9 606 & 61 Hg	2+

\*From the Department of Dermatology, Cornell University Medical College Dispensary.



Case type	duration	W.R.	treatment	W.R.
22 condylomata	2 weeks	4+	5 606 & 24 Hg	2+
23 papular	2 months	4+	9 Hg	2+
24 papular	5 weeks	4+	5 606 & 10 Hg	3+
25 chancre and adenopathies	2 months	4+	6 606 & 20 Hg	4+
26 macular			1 914	
27 macular	4 months	4+	5 606 & 29 Hg	4+
28 pigmented	5 months	1+	4 606 & 4 Hg	4+
29 macular	4 weeks	4+	1 606 & 11 Hg	4+
30 arthritis	6 months	4+	5 606 & 10 Hg	4+
31 mucous patch	9 months	4+	5 606 & 8 Hg	±
32 roseola	6 weeks	2+	5 606 & 10 Hg	0-2 months
33 roseola	10 weeks	4+	5 606 & 8 Hg	4+
34 mucous patch	7 months	4+	5 606 & 15 Hg	2+
35 mucous patch		4+	5 606 & 10 Hg	3+
36 roseola	2 weeks	4+	5 606 & 10 Hg	4+
37 macular & arthritis	3 months	4+	5 606 & 10 Hg	0

Table three includes the late secondary cases of which there are six. The duration of the infection in all these patients was one year or more. In two cases the Wassermann reaction was 4+, in one 3+, in two 1+ and in one the reaction was not determined. Case No. 38 whose Wassermann reaction was 1+ became negative, remaining so for one year without treatment when it became 2+. 66.6% have been negative for from 2 to 6 months.

Case type

Case type	duration	W.R.	treatment	W.R.
38 mucous patch	18 months	1+	5 606 & 10 Hg	2+
39 palmar papular		4+	7 606 & 26 Hg	0-3 months
40 palmar papular		3+	5 606 & 24 Hg	0-4 months
41 mucous patch	1 year	4+	5 606 & 10 Hg	4+
42 mucous patch	2 years	4+	5 606 & 14 Hg	0-5 months
105 mucous patch	1 year	1+	5 606 & 7 Hg	0-2 months

There were five patients suffering with latent lues, recently acquired. Two gave a 4+ Wassermann reaction and in three the reaction was positive, but the degree was not specified. Two gave negative reactions following treatment, one of which has remained so for ten months, the other for two months.

TABLE 4—RECENT LATENT INFECTIONS.

Case	duration	W.R.	treatment	W.R.
43		pos.	5 606 & 19 Hg	0-10 months
44	6 months	4+	1 606 & 9 Hg	4+
45	5 months	pos.	5 606 & 10 Hg	4+
46	4 months	4+	5 606 & 20 Hg	0-2 months
47		pos.	5 606 & 10 Hg	2+

Twenty-nine latent cases were old infections, the duration being from twenty months to twenty-two years. Fifteen of these patients gave a 4+ Wassermann reaction, four gave a 3+ reaction, eight were positive (degree not specified), two were 1+. Nineteen or 65.5% became negative; three or 10.4% have remained negative for one year or more; five or 17.2% have remained negative for from six months to one year; eleven or 37.9% have remained negative for from one to six months.

TABLE 5—OLD LATENT INFECTIONS.

Case	duration	W.R.	treatment	W.R.
48	2 years	4+	1 606 & 36 Hg	0-16 months
49		1+	15 Hg	0-14 months
50	4 years	pos.	5 606 & 10 Hg	0-11 months
51	20 years	1+	7 Hg	0-10 months
52	4 years	3+	5 606 & 13 Hg	0-8 months
53	12 years	4+	5 606 & 23 Hg	0-7 months
54		4+	9 Hg	0-6 months
55	3 years	pos.	2 606 & 22 Hg	0-5 months
56	4 years	pos.	5 606 & 24 Hg	0-5 months
57	5 years	pos.	10 606 & 36 Hg	0-4 months
58	6 years	3+	5 606	0-2 months
59	10 years	pos.	10 606 & 42 Hg	0
60	6 years	pos.	12 Hg	0
61	3 years	4+	5 606 & 9 Hg	0-1 year
62		4+	4 606 & 22 Hg	0
63	2 years	pos.	3 606 & 3 Hg	±
64		4+	7 606 & 13 Hg	1+
65	6 years	4+	2 606 & 9 Hg	2+
66	5 years	pos.	3 606 & 33 Hg	3+
			5 914	
67	9 years	4+	5 606 & 10 Hg	4+
68	20 months	3+	1 606 & 25 Hg	4+
69	22 years	4+	27 Hg	4+
70	10 years	4+	3 606 & 11 Hg	3+
71		4+	1 606 & 11 Hg	0
72	9 years	4+	1 606 & 8 Hg	0
73	3 years	3+	9 606 & 9 Hg	0
74	10 years	4+	3 606 & 10 Hg	0-3 months
75		4+	17 Hg	4+
76	7 years	4+	5 606 & 15 Hg	2+

There were thirteen patients with gummata in the series, six of whom were treated with salvarsan and mercury and nine of whom were treated with mercury alone. In only two of the entire number did we succeed in obtaining a negative Wassermann reaction, a percentage of 15.4. One of these, case 77, had a gumma

of the lower lip; the other, 80, had a gumma of the penis. No. 77 gave a 1+ Wassermann reaction at the beginning and No. 80 gave a 3+ reaction. In the other eleven cases the Wassermann reaction was 4+ in eight, positive (degree not specified) in one and the reaction was not determined in two. The clinical condition was improved in all cases except No. 82, who had an old perforation in the hard palate.

TABLE 6—GUMMATA.

Case	duration	location	W.R.	Treatment	W.R.
77	7 years	lower lip	1+	10 Hg	0-3 months
78	13 years	leg	4+	3 606 & 10 Hg	4+
79		face and arms	4+	10 Hg	4+
80	2 years	penis	3+	20 Hg	0
81	5 years	glossitis	4+	10 606 & 30 Hg	4+
82	10 years	hard palate	4+	5 606 & 6 Hg	4+
83	10 years	leucoplakia, extremities	4+	5 606 & 10 Hg	3+
84	1 year	soft palate	4+	5 606 & 10 Hg	2+
85	11 years	sterno-clavicular articulation	4+	5 606 & 3 Hg	2+
86		larynx	4+	30 Hg	1+
87	16 years	leg	4+	9 Hg	1+
88	17 years	forehead	4+	5 606 & 12 Hg	3+
89	5 years	uvula	pos.	5 606 & 22 Hg	4+

Among the patients, suffering with syphilis of the cranial nerves, three, 92, 94, 95, had a third nerve paralysis. No. 93 had a partial double optic atrophy and paralysis of the fourth and sixth nerves on the right side. No. 91 was a case of congenital syphilis with partial double optic atrophy. The Wassermann reaction was 4+ in two patients, 2+ in two and in one was 1+. Two cases or 40% gave negative reactions after treatment. Case 95 gave a stronger reaction after treatment than he did before treatment was instituted. The three patients with ptosis were cured clinically. The others showed no improvement.

TABLE 7—PATIENTS SHOWING CRANIAL NERVE INVOLVEMENT.

Case	duration	W.R.	clin. condition	treatment	cl. result	W.R.
91	congenital	1+	double optic atrophy	16 Hg	unimproved	0
92		4+	3rd nerve paralysis	5 606 & 10 Hg	cured	0-3 months
93		2+	double optic atrophy & paralysis 4th & 6th	5 606 & 15 Hg	unimproved	1+
94	8 years	4+	3rd nerve paralysis	1 606 & 12 Hg	cured	3+
95		2+	3rd nerve paralysis	5 606 & 16 Hg	cured	3+

There was one case of peripheral neuritis in which the symptoms promptly disappeared and the Wassermann reaction which had been 4+ became negative following one course of mercurial injections.

TABLE 8—PATIENTS WITH PERIPHERAL NEURITIS.

Case	duration	W.R.	treatment	clinical result	W.R.
90		4+	19 Hg	cured	0

Nine patients suffered with involvement of the cerebro-spinal system. No. 101 was a case of paresis; three, 96, 99, 100 were tabo-paresis; the other five suffered with tabes, one of which, 103, had in addition double optic atrophy. Four patients gave a 4+ Wassermann reaction, two were positive (degree not specified), one gave a 1+ reaction, and one, 103, gave a negative reaction which after one course of treatment became a 2+ and after a second course of treatment became 4+. In one case the Wassermann reaction was not determined. Of the nine cases only two or 22.2% became negative. Clinically, however, there was considerable improvement in several. Case 98 had been suffering with frequent attacks of vertigo, which entirely ceased after three injections of salvarsan; later this patient developed a parenchymatous nephritis. Case 99, an early paresis, recovered her speech control to a great extent. Case 100 has shown no improvement, although he has received intraspinal injections of salvarsanized serum in addition to the intravenous therapy. No. 101 was a typical advanced paretic; when treatment was begun it was impossible for him to co-operate in any way while receiving an injection; there was a steady improvement, however, in this regard, and when he received his last injection he remained quiet, and was able to co-operate with the physician fairly well. No. 103 was suffering with crises, which occurred as choking attacks; these crises have completely disappeared and the patient is able to attend regularly to his occupation as clothing salesman, which requires him



to stand for several hours daily. Patients 100, 103 and 104 have shown no improvement.

TABLE 9—CEREBRO-SPINAL SYPHILIS.				
Case	duration	cl. condition	W.R.	cl. result
96	4 year	tabo-paresis	W.R.	treatment
97	1 year	early tabes	4+	5 606 & 11 Hg improved 0-4 mos.
98	7 years	tabes	pos.	21 606 & 12 Hg improved 0
99	8 years	tabo-paresis	pos.	7 606 & 20 Hg nephritis 3+
100	10 years	tabo-paresis	4+	15 Hg improved 1+
101	10 years	paresis	4+	5 606 & 20 Hg unimproved 3+
102	18 years	tabes	1+	5 606 improved 3+
103	18 years	tabes, optic atrophy	0	5 606 & 12 Hg improved 1+
104	18 years	early tabes	4+	8 606 unimproved 4+

Considering now the results of treatment, attained by means of certain arbitrary dosage of salvarsan and mercury, we have sixty-four patients in whom treatment was started with one course of five injections of 0.2 gm. of salvarsan and from five to fifteen injections of mercury salicylate, with one exception, No. 58, who received no mercury. This group of cases includes 2 primary, 23 secondary, 6 late secondary, 5 gummata, 17 latent, 3 involving the cranial nerves and 8 cerebro-spinal cases. Three patients had a negative Wassermann reaction, two of which were primary cases, three had a 1+ reaction; three had a 2+ reaction; five had a 3+ reaction; twenty-seven had a 4+ reaction; eleven were positive (degree not specified), and in twelve the reaction was not determined. Thirty-four patients gave a negative Wassermann reaction, following the above course of treatment. Of the thirty-four sixteen had previously shown a 4+ reaction, two a 3+ reaction, two had shown a 2+ reaction, and two a 1+ reaction, four had been positive, and in six the Wassermann reaction had not been determined. Of the thirty-four patients who became negative, fifteen became positive in from one month to one year, six disappeared from our observation after one examination, and thirteen have remained negative for from two months to one year. Nineteen or 55.9% have been negative for one month or more; fourteen or 41.2% have remained negative for from one month to six months; five or 14.7% have remained negative for from six months to one year. Of the patients showing negative reactions, two were primary, six secondary, one latent secondary, seven latent, one had cranial nerve involvement and two had cerebro-spinal involvement.

TABLE 10—RESULTS FOLLOWING ONE COURSE OF SALVARSAN AND MERCURY.

Case	clinical type	1st W.R.	2nd W.R.
1	primary	0	0
2	primary	0	0
3	secondary	4+	0 for 3 mos. then 1+
4	secondary	4+	0 for 2 mos. then 1+
7	secondary	4+	0 for 11 months
10	secondary	4+	2+
12	secondary	4+	0 for 2 months
13	secondary	4+	0 for 2 months
16	secondary	4+	0
18	secondary	pos.	±
30	secondary	pos.	4+
20	secondary	pos.	3+
21	secondary	2+	0 for 2 mos. then 1+
22	secondary	4+	±
24	secondary	4+	0 for 3 mos. then 3+
25	secondary	4+	4+
26	secondary	4+	0 for 2 mos. then 4+
27	secondary	4+	0 for 2 mos. then 4+
29	secondary	4+	0 for 3 mos. then 4+
34	secondary	4+	0 for 4 mos. then 2+
35	secondary	4+	3+
36	secondary	4+	4+
37	secondary	4+	0
38	late secondary	1+	0 for 1 year then 2+
39	late secondary	3+	0 for 5 mos. then 4+
40	late secondary	3+	0 for 2 mos. then 2+
42	late secondary	pos.	4+
41	late secondary	pos.	0 for 1 mo. then 2+
105	late secondary	1+	0 for 2 mos.
43	latent (recent)	pos.	0 for 2 mos. then 2+
45	latent (recent)	4+	4+
47	latent (recent)	pos.	0 for 1 mo. then 2+
46	latent (recent)	4+	0 for 2 months
61	latent	4+	0 for 1 year
50	latent	pos.	0 for 11 months
52	latent	3+	0 for 8 months
53	latent	4+	0 for 7 months
56	latent	pos.	1+
58	latent	3+	0 for 2 months
59	latent	pos.	4+
62	latent	4+	0 for 5 mos. then 3+
64	latent	4+	2+
67	latent	4+	4+
73	latent	3+	2+

Case	clinical type	1st W.R.	2nd W.R.
74	latent	4+	0 for 3 months
76	latent	4+	0 for 1 month then 2+
85	tertiary	pos.	2+
81	tertiary	4+	2+
82	tertiary	4+	4+
84	tertiary	4+	2+
89	tertiary	pos.	3+
92	cranial nerve involved	4+	0 for 3 months
93	cranial nerve involved	2+	1+
95	cranial nerve involved	2+	3+
100	cerebro-spinal	4+	4+
101	cerebro-spinal	4+	3+
96	cerebro-spinal	4+	0 for 4 months
97	cerebro-spinal	4+	0
98	cerebro-spinal	pos.	3+
102	cerebro-spinal	1+	1+
103	cerebro-spinal	0	2+
104	cerebro-spinal	4+	4+

Total—64 cases.

Became negative 34, of which

6 disappeared from observation

1 has remained negative for one year

2 has remained negative for 11 months

1 has remained negative for 8 months

1 has remained negative for 7 months

1 has remained negative for 4 months

2 has remained negative for 3 months

5 has remained negative for 2 months

1 became positive after being negative for one year

2 became positive after being negative for 5 months

1 became positive after being negative for 4 months

3 became positive after being negative for 3 months

6 became positive after being negative for 2 months

2 became positive after being negative for 1 month

prim. sec. L. sec. ter. latent cran. N. C. sp. Total

0 and disappeared.....2 3 1 7 1 1 13

0 for 1 mo. to 1 yr.... 8 3 4 1 1 15

0 but became +..... 9 2 5 6 2 6 30

Remained +..... 2 23 6 5 17 3 8 64

Total..... 2 23 6 5 17 3 8 64

The next table includes those patients, enumerated

in Table 10, whose Wassermann reaction became nega-

tive and later positive. Four of these patients were

not observed after the reaction became positive, six are

still under treatment, and five showed a negative Was-

sermann reaction under further treatment. Two of

these were secondary, one a late secondary and two were

latent.

TABLE 11—FURTHER TREATMENT OF PATIENTS WHOSE WASSERMANN

REACTION BECAME POSITIVE AFTER BEING NEGATIVE.

Case	type	W.R.	treatment	W.R.
24	secondary	4+	disappeared	4
27	secondary	4+	disappeared	2
29	secondary	4+	disappeared	2
33	secondary	4+	disappeared	2
32	secondary	1+	under treatment	2
34	secondary	2+	under treatment	2
38	late secondary	2+	under treatment	2
42	late secondary	2+	under treatment	2
47	latent	2+	under treatment	2
76	latent	2+	under treatment	2
3	secondary	1+	1 series of 10 Hg	0 for one year
4	secondary	±	2 series of 10 Hg	0 for one year
40	late secondary	4+	1 series of 15 Hg	0 for four months
43	latent	2+	1 series of 9 Hg	0 for ten months
62	latent	3+	1 series of 12 Hg	0 for two months
disappeared.....	secondary	4	late secondary	latent
under treatment.....	4	2	2	4
negative.....	2	1	2	5
Total.....	8	3	4	15

Table 12 shows the results of further treatment of

the patients, enumerated in Table 10, whose Wasser-

mann reaction was positive after completing one course

of treatment. There are thirty patients in this group,

of whom nine were secondary, two late secondary, six

latent, five were tertiary, two had cranial nerve involve-

ment, and six were cerebro-spinal cases. Five of the

patients showed a negative Wassermann reaction after

treatment, six are still under treatment, eight disap-

peared from observation and eleven remained positive.

The five who became negative include one secondary,

one late secondary and three latent cases. One case has

remained negative for more than six months, the others

from one to five months.

TABLE 12—RESULTS OF SUBSEQUENT TREATMENT OF PATIENTS WHOSE

WASSERMANN REACTION REMAINED POSITIVE AFTER ONE COURSE

OF SALVARSAN AND MERCURY.

Case	type	W.R.	treatment	W.R.
10	secondary	2+	7 Hg	0 for 6 months
30	secondary	±	under treatment	±
20	secondary	4+	8 606 & 20 Hg	±
21	secondary	3+	4 606 & 34 Hg	2+
22	secondary	±	15 Hg	2+
25	secondary	4+	2 606 & 10 Hg	4+
26	secondary	1+	19 Hg	4+
35	secondary	3+	under treatment	4+
36	late secondary	4+	under treatment	4+
39	late secondary	1+	2 606 & 16 Hg	0 for 3 months
41	latent	4+	disappeared	4+
45	latent	4+	disappeared	4+

Case	type	W.R.	treatment	W.R.
56	latent	1+	14 Hg	0 for 5 months
59	latent	4+	5 606 & 30 Hg	0
64	latent	4+	3 606 & 3 Hg	1+
67	latent	4+	disappeared	0
73	latent	4+	4 606 & 9 Hg	0
81	tertiary	2+	10 Hg	4+
84	tertiary	2+	under treatment	2
82	tertiary	4+	disappeared	1
89	tertiary	3+	10 Hg	4+
93	cranial nerve	1+	disappeared	2
95	cranial nerve	3+	under treatment	1
100	cerebro-spinal	4+	10 Hg	3+
101	cerebro-spinal	3+	disappeared	2
98	cerebro-spinal	3+	2 606 & 10 Hg	4+
102	cerebro-spinal	1+	under treatment	4+
103	cerebro-spinal	2+	3 606	4+
104	cerebro-spinal	4+	disappeared	
85	tertiary	2+	disappeared	
Total—30 Cases—				
8 disappeared from observation without further treatment				
6 are still under treatment				
5 have become negative				
2 for one month				
1 for three months				
1 for five months				
1 for six months				
11 have remained positive				
disappeared	sec.	L. sec.	latent	tertiary
under treatment	1	2	2	1
negative	1	3	1	1
positive	5	1	2	3
Total	9	2	6	5
				2
				6
				30

Table 13 is a summary of the final results of treatment of the sixty-four patients, enumerated in Table 10.

	prim.	sec.	L. sec.	ter.	latent	cran. N.	C. s.	Total
0 and disappeared	2	3					1	6
0 for 1 mo. to 1 year		6	3		12	1	1	23
Positive		5		2	1		3	11
+ and disappeared		4		1				5
+ after first course								
+ and disappeared								
+ after second course			1	1	2	1	2	7
Under treatment		5	2	1	2	1	1	12
Total	2	23	6	5	17	3	8	64

Six patients became negative on one examination, then disappeared from observation. Twenty-three have been negative for from one month to one year; 45.3% have been negative for at least one month; twenty or 31.3% have been negative for from one to six months; nine or 14.1% have remained negative for from six months to one year; twenty-three patients still show a positive Wassermann reaction and twelve are still under treatment.

The next four tables include those patients to whom was administered one, two or three injections of salvarsan together with a varying amount of mercury. Case 57 in Table 15, who is shown as remaining positive, later gave a negative Wassermann reaction with further treatment (see Table 18). In cases 9, 11 and 48 the salvarsan administered was 0.6 gm. in each dose. Case 55 had previously received two injections of salvarsan and thirty injections of mercury. Fifteen patients are included in the three groups and of these six or 40% have become negative. Three of these were secondary and three suffered with latent syphilis. One patient has remained negative for sixteen months, one for seven months, two for six months, one for four months and one for three months.

TABLE 14—RESULTS OF TREATMENT OF SEVEN PATIENTS RECEIVING ONE INJECTION OF SALVARSAN AND FROM EIGHT TO THIRTY-SIX INJECTIONS OF MERCURY.

Case	type	W.R.	treatment	W.R.
9	secondary	pos.	1 606 & 12 Hg	0 for 7 months
44	latent	4+	1 606 & 9 Hg	4+
68	latent	3+	1 606 & 25 Hg	4+
48	latent	4+	1 606 & 36 Hg	0 for 16 months
72	latent	4+	1 606 & 8 Hg	0 for 3 months
94	cranial N. involved	4+	1 606 & 12 Hg	3+
28	secondary	1+	1 606 & 11 Hg	4+

TABLE 15—RESULTS OF TREATMENT OF FOUR PATIENTS WHO RECEIVED TWO INJECTIONS OF SALVARSAN AND A VARYING AMOUNT OF MERCURY.

Case	type	W.R.	treatment	W.R.
17	secondary	pos.	2 606 & 5 Hg	0 for 6 months
55	latent	pos.	2 606 & 22 Hg	0 for 6 months
57	latent	pos.	2 606 & 13 Hg	4+
65	latent	4+	2 606 & 9 Hg	2+

TABLE 16—RESULTS OF TREATMENT OF FOUR PATIENTS WHO RECEIVED THREE INJECTIONS OF SALVARSAN AND A VARYING AMOUNT OF MERCURY.

Case	Type	W.R.	Treatment	W. R.
11	secondary	pos.	3 606 & 13 Hg	0 for 4 months
63	latent	4+	3 606 & 3 Hg	1+
70	latent	4+	3 606 & 11 Hg	3+
78	tertiary	4+	3 606 & 10 Hg	4+

TABLE 17—SUMMARY OF RESULTS OF TREATMENT OF FIFTEEN PATIENTS WHO RECEIVED ONE TO THREE INJECTIONS OF SALVARSAN AND A VARYING AMOUNT OF MERCURY.

	I	II	latent	III	Cranial N.	Total
negative 3 mo. to 16 mo.	3	3	1	1	6	9
positive	1	6	1	1	9	15
Total	4	9	1	1	15	

Nine patients received five or more injections of salvarsan together with a varying amount of mercury. The results of the treatment of these patients is given in Table 18. Case 8 gave a 4+ Wassermann reaction, after receiving twenty-four injections of mercury; he was then given five injections of salvarsan and ten injections of mercury and the Wassermann reaction became 1+; after fourteen more injections of mercury the reaction became negative and has remained so for eight months. No. 6 after two injections of salvarsan and ten of mercury became negative, but after six months the reaction became 1+; following a second course of treatment, consisting of four injections of salvarsan and ten of mercury the Wassermann reaction became negative and has remained so for fifteen months. No. 31, suffering with a persistent mucous patch of the tongue gave a 4+ Wassermann reaction in spite of having received seven injections of salvarsan and fifteen of mercury; the reaction became negative following one more course of treatment. Case 57 shows the result of intensive treatment. Case 15 developed an early rupial eruption and while under mercurial therapy developed a severe syphilitic arthritis. Cases 14 and 5, both suffering with a corymbiform eruption, developed severe irido-cyclitis while under treatment. Case 5 neglected treatment at this time for one month during which period the eye symptoms became steadily worse. Under further treatment, however, the symptoms ameliorated and although his vision is somewhat defective, the Wassermann reaction has been negative for one year. No. 14 is still under treatment for although the Wassermann reaction has been negative for several months, there is evidence of choked disc. Of the nine cases in this group eight are Wassermann negative, the one case remaining positive is a latent case of five years duration, who was treated largely with neosalvarsan. Seven of the eight negative cases were secondary and all of a resistant or clinically severe type. The average amount of treatment administered to the eight was ten injections of salvarsan and twenty-seven injections of mercury; 22.2% have remained negative for one year or more; 11.1% have remained negative for from 6 months to one year; 55.5% have remained negative for from one month to six months.

TABLE 18—RESULTS OF TREATMENT OF NINE PATIENTS WHO RECEIVED FIVE OR MORE INJECTIONS OF SALVARSAN AND A VARYING AMOUNT OF MERCURY.

VARYING AMOUNT OF MERCURY.					
Case	type	W.R.	treatment	W. R.	
8	secondary	4+	5 606 & 48 Hg	0	for 8 months
6	secondary	pos.	6 606 & 20 Hg	0	for 15 months
31	secondary	4+	12 606 & 25 Hg	0	for 2 months
57	latent	pos.	10 606 & 36 Hg	0	for 4 months
15	secondary	pos.	8 606 & 30 Hg	0	for 2 months
66	latent	pos.	3 606		
			5 914 & 33 Hg	3+	
14	secondary	2+	7 606 & 15 Hg	0	
5	secondary	4+	12 606 & 17 Hg	0	for 1 year
19	secondary	4+	10 606 & 1 Hg	0	
			II	Latent	Total
Negative	.....		7	1	8
Positive	.....			1	1
Total	.....		7	2	9

Eighteen patients received no salvarsan, but were treated with mercury alone. Ten of these showed a 4+ Wassermann reaction when treatment was instituted, two gave a positive reaction (degree not specified), one gave a 3+ reaction, four were 1+, and in one case the reaction was not determined. Nine patients gave a negative Wassermann reaction after treatment. Of these nine four disappeared from observation, one has remained negative for fourteen months, one for ten months, one for six months, one for three

months and one for one month. One case became negative (99), but again became positive after two months. Of the nine patients who became negative, four had shown a 1+ Wassermann reaction previously, two had been positive, one was 3+ and two were 4+.

TABLE 19—RESULTS OF TREATMENT OF EIGHTEEN PATIENTS WITH MERCURY.

Case	type	W.R.	treatment	2nd W. R.
23	secondary	4+	9 Hg	2+
49	latent	1+	15 Hg	0 for 14 months
51	latent	1+	7 Hg	0 for 10 months
54	latent	4+	9 Hg	0 for 6 months
69	latent	4+	27 Hg	4+
71	latent	4+	11 Hg	0
75	latent	4+	17 Hg	0
60	latent	pos.	12 Hg	0
77	tertiary	1+	10 Hg	0 for 3 months
79	tertiary	4+	10 Hg	4+
80	tertiary	3+	20 Hg	0
83	tertiary	4+	10 Hg	3+
86	tertiary	4+	30 Hg	1+
87	tertiary	4+	9 Hg	1+
88	tertiary	4+	9 Hg	1+
90	neuritis	4+	19 Hg	0
91	congenital	1+	16 Hg	0
99	cerebro-spinal	pos.	15 Hg	1+

	II	III	Latent	Periph.	N. Cranial	N. C-S.	Total
0 & disappeared...		2	2	1	1		4
0 for 1 mo. to 14 mos.		2	3				5
positive .....	1	5	2			1	9
Total .....	1	7	7	1	1	1	18

Tables 20 and 21 give a summary of the eighty-seven patients treated with combined therapy and the eighteen, treated with mercury alone. The results of treatment seem to be almost identical, but it must be borne in mind that the patients receiving mercury alone were selected cases which were clinically mild and as has been shown, nearly one-half of those in which the Wassermann reaction became negative after treatment gave a 1+ reaction previously.

TABLE 20—PATIENTS RECEIVING COMBINED TREATMENT

Negative for	
16 months	1
15 months	1
12 months	4
11 months	1
10 months	1
8 months	2
7 months	2
6 months	2
5 months	2
4 months	3
3 months	7
2 months	4
1 month	6
<b>Total</b>	<b>37</b>

In addition 6 patients disappeared after becoming negative.  
49.4% became negative.  
32.2% negative for from 1 to 6 mos.  
10.4% negative for from 6 mos. to 1 yr.  
6.9% negative for 1 yr. or more.

Total		Primary Cases		Total	
Negative	2	100%	0	Negative	0
Positive	0		2	Positive	0
		Secondary Cases (early)			
Negative	19	55.8%	0	Negative	0
Positive	15	44.2%	34	Positive	1
		Late Secondary			
Negative	3	50%	0	Negative	0
Positive	3	50%	6	Positive	0
		Tertiary			
Negative	0	0	0	Negative	2
Positive	6	100%	6	Positive	5
		Latent (recent)			
Negative	2	40%	0	Negative	0
Positive	3	60%	5	Positive	0
		Latent (old)			
Negative	14	63.6%	0	Negative	5
Positive	8	36.4%	22	Positive	2
		Involving Cranial Nerves			
Negative	1	25.0%	0	Negative	1
Positive	3	75.0%	4	Positive	0
		Cerebro-Spinal			
Negative	2	25.0%	0	Negative	0
Positive	6	75.0%	8	Positive	1
<b>Total</b>	<b>37</b>			<b>Total</b>	<b>18</b>

Conclusions:—(1) Primary syphilis yields itself readily to treatment with small doses of salvarsan together with mercury.

(2) The best results in the treatment of patients suffering with secondary syphilis are obtained by administering at least ten injections of salvarsan and thirty injections of mercury.

(3) Patients suffering with gummata and lesions of

the central nervous system are the most difficult in which to obtain negative Wassermann reaction.

(4) Old cases with latent infection yield readily to treatment regardless of the duration of the infection.

(5) When we are dealing with an old infection in which there is evidence of an active process, the case yields to treatment with difficulty; if the infection be attenuated (latent) the case yields readily.

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## THE CIGARETTE AS RELATED TO DISEASE, MORTALITY AND NATIONAL LIFE.\*

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Numerous experiments have in the past been conducted for the purpose of ascertaining the effect of the smoke of burning tobacco or nicotine, upon animal life. That nicotine, the constituent of all tobacco smoke, is sufficiently toxic to kill in minute doses, has been many times demonstrated.

In taking up the study of the cigarette, we have to do not merely with tobacco and nicotine, but with products which are added to tobacco in the manufacture of cigarettes, and the paper in which the tobacco is rolled. The smoke of the cigarette is derived from the burning of a combination of tobacco, paper and glycerin, and various unknowns which are added purely for commercial purposes. Some of the products added are harmless in themselves, but the aldehydes which are developed by their combustion are exceedingly harmful. The aldehydes present in the smoke of the cigarette are responsible for much that has in the past been ascribed to nicotine. One of Thomas A. Edison's assistants, in conducting experiments in his laboratory, chanced to inhale the fumes of burning glycerin with almost fatal results.

Mr. Edison has analyzed the smoke of a great many cigarette papers and he claims that he found the aldehyde, known as acrolein, present in every case. He attributes the injury resulting from the use of cigarettes chiefly to this agent. He says: "The injurious agent in cigarettes comes principally from the burning paper wrapper. The substance thereby formed is called 'acrolein.' It has a violent action on the nerve centers, producing degeneration of the cells of the brain, which is quite rapid among boys. Unlike most narcotics this degeneration is permanent and uncontrollable."

The London *Lancet*, in referring to its findings three years ago in the examination of the smoke of the cigarette, said:

"To aldehydes the poisonous effects of crude, immature whisky are ascribed, although they occur in relatively small quantities, but the furfural contained in the smoke of only one Virginian cigarette may amount, according to our experiments, to as much as is present in a couple of fluid ounces of whisky. Furfural, the principal aldehyde, which we have found present in marked quantities in the cigarette smoke of a very popular tobacco, is stated to be about fifty times as poisonous as ordinary alcohol, and small doses cause 'symptoms of transient irritation, such as ataxia, tremors and twitching,' while in adequate quantities furfural 'gives rise to epileptiform convulsions, general muscular paralysis, ending in paralysis of the respiratory muscles.'"

Cigarette smoking is common in England. The practice was introduced into England somewhat earlier than into America. The results are therefore possibly more

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apparent. The average British workman is a poorly developed, ambitionless subject. Three-fourths of the applicants for the army and navy were in the past rejected as unfit. Nearly all then exhibited the stain upon the fingers of the cigarette.

General Lyttleton, in referring to the present recruits of the army and navy says they "are physically immature and of an exceedingly low order of intelligence." And Surgeon General Sir W. D. Cubbins, in his annual report on the health of the home army, in calling attention to the prevalent use of cigarettes, said: "In the interest of the army as well as the individual soldier, this habit must be greatly checked."

A cable message from London, received by the *Chicago Tribune*, stated: "The cigarette is playing havoc with the British army, and if something is not done soon Great Britain will be defended or rather left undefended by a collection of weak-minded and weak-bodied youths, capable of no real effort of any kind. After months of drilling and training many of these recruits seem unable to remember the simplest movement of the manual, and not one of them ever displays the slightest resourcefulness in emergencies. The chief disposition of most of the recruits seems to be to hunt some place to lie down and rest. When in former days the recruits ran the sentries and raised all sorts of trouble, they now dodge the non-commissioned officers and go to sleep." And Sir Bampton Gordon, a few years ago, said, "The evil effects of the growing habit among boys of smoking cigarettes can scarcely be exaggerated." It is a habit which leaves the rising generation deteriorated in physique. If in ten or fifteen years hence we should have the misfortune to engage in a great war, this habit among our youth to-day would tell against us." There can be no doubt that this practice among the youth of England is telling against her in her present crisis.

The increase in the use of cigarettes during the past few years in the United States has been phenomenal. It is safe to say that no practice has ever been introduced that has captivated so many of our boys.

The past thirteen years shows an increase in the sale

of American manufactured cigarettes of over seven hundred per cent. The pipe has almost disappeared from our public streets. Last year there were over one-half million less cigars consumed than the previous year. It is evident from this that the cigarette, in spite of the prejudice that has existed against it, has practically crowded out and replaced both the pipe and the cigar. We are now a nation of smoke inhalers. Last year there were sold over sixteen billion American manufactured cigarettes and possibly many more hand-rolled and imported ones were sold and smoked. I am not an advocate of the pipe, but it is possibly the least harmful way of smoking, since much of the nicotine in the smoke condenses in the cooler portion of the bowl and the stem of the pipe, while the cigarette, owing to its loose structure and close proximity to the mouth, allows practically all the nicotine to reach the mouth. The same may be said of the aldehydes, and the carbon monoxide which results from incomplete oxidation.

The earlier in life the habit is formed the greater is the injury sustained. Seventy years ago the average age at which the smoke habit was formed was about twenty-two years. Smoking was then largely confined to men. Now the practice is begun at the average age of less than eleven years. In some schools as high as seventy-five per cent. of the boys over eleven years of age smoke. In one school I visited I actually found that ninety per cent. of the boys were smokers. In a Western high school only two boys in the entire school were free from the practice.

In one of the ungraded rooms of a Detroit school out of twenty-six boys ranging from twelve to sixteen years, only two could be found who did not habitually smoke cigarettes. These two boys had never smoked and they were in all respects the finest developed boys in this department. The principal called my attention to two other boys; one acknowledged that he had used cigarettes from the age of five or six years, and the other confessed to having smoked them as long as he could remember. Physically, these two boys were the most defective of any in the department. Their mentality was also the most inferior. The boy who had



Detroit school boys.—Two larger boys are non-smokers and the two smaller are inveterate cigarette smokers.

smoked as long as he could remember was unable even to write his name. A pulse tracing which I took showed the heart in a most defective condition. Whether or not these boys would have grown to be as tall and well developed physically and mentally as the other two boys, had they never smoked, I am not able to say. It seems more than a mere coincidence, however, that the only two boys who had never smoked should in every respect be the best developed of any in the school, while the two who had used cigarettes practically from infancy up should in every respect be the most defective. All four boys in the picture were a little over fourteen years of age. In stature the smokers had the appearance of boys of eight or nine years.

Practically all the boys who now begin to smoke, begin with the cigarette. This practice now so prevalent among our boys has already made its impress upon our national life. A stronger army and navy is at present demanded. As far as the weapons of warfare are concerned, the combination of warring nations and their efforts to excel in the production of implements of destruction, will always remain about equally matched. Success will come ultimately as in the past when hand to hand battles were fought, to the nation whose men are the fittest and are best able to endure the hardships of war for prolonged periods. Individual endurance and efficiency will be the deciding factor in these strenuous contests. Emperor William recognized this when in addressing his cadets in the year 1911, he said, "In the next great battle the nation which consumes the least alcohol will win."

It is my confident belief, however, based on careful study and observation of years, that the cigarette, because of its more prevalent use by boys, is doing more at present in America toward lowering the efficiency of her young men than alcohol.

Several years ago a new superintendent of United States Naval Academy at Annapolis requested the government to appoint a commission of scientific men to ascertain whether there were adequate reasons for the existence of a rule against smoking by the younger men, a regulation which it seems had been almost entirely ignored. A certain number of smokers and non-smokers were put through the following tests: Muscle strength, heart strength and capacity for study. The average results obtained were greatly in favor of the non-smokers. To verify the findings, tobacco was then withheld from the smokers for a time, and again they were tested, with the result that muscle strength, heart strength and the capacity for study were all increased. The rule against smoking was then enforced. Smoking was afterwards prohibited also at the Military Academy at West Point. The class of diseases, as headache, disordered digestion, malaise, it is said, diminished at least one-half in the first three months after the order went into effect. Some of the officers thought this rule was a little too severe, hence the order was later rescinded and smoking was permitted for one year. General Gorgas, Surgeon General of the United States Army, in referring to this, said it "showed such unmistakable results that all the officers who had favored the plan of permitting the cadets to smoke, confessed that the experiment had proven a failure."

Dr. Larned, in his report to the Surgeon General, said: "Unquestionably the most important matter in the health history of the students of the academy is that relating to the use of tobacco. I have urged upon the superintendent, as my last official utterance, the fact, of the truth of which five years experience as health officer of this station has satisfied me, that be-

yond all other things the future health and usefulness of the lads educated at this school require the absolute interdiction of tobacco. In this opinion I have been sustained not only by all my colleagues, but by all sanitarians in military and civil life whose views I have been able to learn."

At present restricted smoking is permitted at West Point, but merely because the severest penalties failed in keeping tobacco from the cadets. The superintendent at West Point, in giving his reasons for revoking this regulation, said: "I have found that the majority of the cadets who used tobacco before entering the academy continue its use afterwards and some even acquired it here. The enforcement of the regulation caused many of the cadets to resort to unsoldierly subterfuges and in some cases to dishonorable deceptions in order to evade it. No proper effort is spared to discourage the use of tobacco and to make known the harm resulting therefrom. The greatest difficulty the subject presented was the existence of a regulation which the severest penalties did not enforce. Its continuance had the tendency to produce contempt for all regulations, a most harmful result from a military standpoint, and of causing cadets to depart from rules of straightforward manhood in its violation."

Cigarette smoking is now general within the army and navy. The late Surgeon General Rixey, U. S. N., sometime ago recommended to the Secretary of the Navy that the use of cigarettes be forbidden all persons under twenty-one years of age on board ships of the United States Navy. "If the recommendation is put into effect," he said, "the sick record of the navy will be smaller and the development of a better physique will be fostered and the general efficiency of the navy enhanced." "The habit?" he says, "is becoming a serious impediment to robust health in the navy and seems to have taken a decided impetus in the service since the Spanish war and has spread to incredible proportions."

From July 1, 1914 to May 30, 1915, a period of eleven months, 159,856 made application to enter the United States Army. Of this number 117,045 were unable to pass the preliminary tests, and an additional 5,570 were later culled out by the Board of Medical Examiners, leaving only 36,241 out of the original 159,856 who were able to meet the United States standard of requirements for the army. Secretary of the Navy Daniels recently said that only one out of every six of the applicants for the navy were accepted. The young men who were rejected were not considered infirm by their friends. They were volunteers. They were young men who thought they were in health; and were unconscious themselves of having any physical infirmity. They represented, in fact, the best America had, and yet four out of every five were unfit for army and navy service.

Life insurance companies each year find they have to reject more and more of the applicants for insurance. Mr. E. E. Rittenhouse, President of the Life Extension Institute of New York, in a paper read before the Public Health Association at Rochester, N. Y., in referring to the decadence among young men of America, says: "How much longer may we hope successfully to meet the struggles of peace and war with the proportion of inactive, flabby muscled, low-powered Americans constantly increasing? How long can the nation itself endure with the physical fitness of its producers and defenders steadily declining?"

If this decline continues America, too, will in the near future be defended or rather left undefended by a collection of weak minded and weak bodied youths, capable of no real exertion. It is evident that in the



near future the standard of requirement will have to be lowered in order to maintain an army and navy.

Insurance companies also find it necessary each year to reject a larger percentage of middle-aged men who apply for life insurance, owing to the presence of organic diseases. Mr. Rittenhouse says, "Forty-three per cent. of those who applied for life insurance in a large American company were declined because of physical impairment indicating the presence or the coming of these degenerative diseases, and that 90% of these applicants were unaware of their condition and under the impression they were physically sound." He further says, "It is safe to say that there are constantly at least fifteen million adults in America who have one or more of these organic diseases in some stage of development."

It is generally recognized that any habit of life which places an extra tax upon the kidneys, heart or other vital organ, wears them out prematurely. Among such habits the use of cigarettes as practiced today from youth up, now holds first place.

The mortality from organic diseases is increasing more rapidly among men than it is among women. This is not a mere coincident. The United States Census records show that between the years 1900 and 1910, in a group of over four million occupied males, the increase in the death rate from degenerative diseases was fifty-two per cent. This is considerably above the general increase from these diseases. It is our men who die suddenly of heart failure or apoplexy, as a rule, not the women. The same is true in other countries where this practice is confined chiefly to the male population. Widows are in excess of widowers in all civilized countries. Great Britain, France and Germany are said to have had nearly three million more females than males before the present war was precipitated. Insurance companies reject cigarette fiends as poor risks. A careful study of six Canadian insurance companies found the mortality rate of non-smokers to be 59, and that of moderate smokers 93.

Dr. Hindhede, Director of the Danish Government Laboratory, in his investigation covering a period of five years in Copenhagen, 1900 to 1905, found that in every age period after middle life the death rate was higher among men than among women, and that by the time the 55th year of life was reached, the mortality was twice as great among men as it was among women. He also discovered that between the age period of 45 and 54 the death rate from apoplexy was twice as great among men as it was among women. In summing up he concludes "there is therefore a probability almost reaching certainty, that alcohol and tobacco, or rather both together, occasion a premature hardening of the brain cells with consequent breaking."

In France the discovery was made a few years ago by examining the books of the various life insurance companies, that the women annuitants found upon the books of these companies arrived at a greater age than the men. While the men averaged a bare fifty, the women averaged over seventy years. On the books of one company several centenarians were found, all of whom were women. Those who made this investigation, in bringing in their report, said, "Men drink too much and smoke too much, while women being much wiser drink ten times less and seldom smoke."

Dr. Robert N. Wilson of Philadelphia, in an article in the *New York Medical Journal* of September 11, 1915, from an exhaustive study of tobacco as a factor in diseases of degeneration says: "It is my confident belief that between tobacco now in the general use and abuse, and the various forms of food toxemias, can be

divided the responsibility for the vast amount of arteriosclerosis that is not attributable to syphilis and old age."

Dr. Arnold Lorand in his work "On Old Age Deferred," says, "When nicotine is taken for many years and sometimes even in a shorter time, very injurious consequence from nicotine poisoning may ensue. Clinically," he adds, "we have observed the great frequency of arteriosclerosis in great smokers." He says, "If among those addicted to drink there are many instances of long life, among smokers such instances are much fewer." Prof. Adolph Von Struempell, the physiologist, says, "While it is difficult to tell precisely what ill effects alcohol exerted on the blood vessels, it is plainly evident that nicotine was more injurious."

The mortality from pneumonia is rapidly increasing among men after middle life. It is well known that the chances for recovery from any acute disease accompanied by a rise of temperature and high blood pressure, depends upon the condition of the cardio-vascular system and the kidneys. A tobacco crippled heart cannot stand the extra strain that is placed upon it in these diseases and is apt to fail up. Pneumonia usually weeds out those who possess some organic disease. Its field of operation is chiefly confined to the fifteen million men referred to by Mr. Rittenhouse, most of whom have tobacco injured hearts and blood vessels.

The mortality from tuberculosis is also greater among men than among women after the age of twenty. The prevalence of this disease in the United States Navy Surgeon General Rixey claimed, was due chiefly to the prevalent use of cigarettes. In the Phipps Institute of Philadelphia it was found that the mortality from tuberculosis is greater among smokers than it is among non-smokers.

In the city of Paris, at the age of ten years, one hundred deaths were reported in the year 1905 among females from tuberculosis and forty-seven among males. At this age the mortality among females was twice as great as among males. Possibly this was due to the outdoor life enjoyed by the boys. At the age of twenty the mortality of the males it was found exceeded that of the females. Four hundred and thirty-one deaths were reported among males and three hundred forty-five among females. At the age of forty the mortality among males was twice as great as it was among females.

Dr. Hindhede found that in Copenhagen between the years 1900 and 1905, the mortality from tuberculosis between the age period of twenty and twenty-four was also greater among males than among females. There were eighty-five deaths to every ten thousand living among males and eighty among females. Between the age period of 35 and 44 years the mortality among women had dropped from eighty to sixty-two, while among men it had gone up from eighty-five to one hundred and sixty. Between the ages of 55 and 64 the mortality among women had fallen to its lowest point, fifty-two, while among men it had reached one hundred and ninety-three. The mortality at this age period was nearly four times as great among men as it was among women.

The chief predisposing cause of pulmonary tuberculosis is impure, overheated air. Women, being confined much indoors, we would naturally expect to be more subject to tuberculosis than men, but the continuous inhalation of the heated smoke of tobacco, paper, glycerine, and the various unknowns, irritates and lowers the vitality of the lung tissue and thus paves the way, and is responsible for the difference in mortality of the sexes after the twentieth year of life.



Stricter laws should be enforced against smoking in public places. I do not see why women and innocent little children are compelled to live in an atmosphere of cigarette smoke. The chief injury comes not from smoking cigarettes, but from inhaling the smoke. We protect the water supplies of our cities from contamination. It is much more important from a health viewpoint to protect the air from contamination.

Fleig found that by continuous exposure of guinea pigs to tobacco smoke, not one of the number thus exposed developed into normal and healthy animals. He also discovered that when a pregnant mother was exposed to smoke, the young were either born dead or dwarfed and far beneath the normal weight.

In the city of Vienna where women are employed largely in cigarette manufactories, only seven children out of each one hundred born, manage to reach the first year of life. The mortality among them is 93%, while in the city it is but 35%.

Dr. Herbert Tidswell of England, in observing a large number of families of smokers and non-smokers found that abortions were more common among the wives of smokers than among the wives of non-smokers. The smokers' wives also suffered from a higher degree of sterility.

In all civilized countries the birth rate has in the past been higher than the death rate. The distance between the two, however, has for years been narrowing. In France during the first six months of the year 1914, (this was before the present war was precipitated) the birth rate fell below the death rate by twenty-four thousand and eight hundred. This state of affairs which has been steadily coming on for two years, has been causing considerable alarm in France. In commenting upon the tendency, H. Clemental, former Minister for the Colonies, in his report on the war office estimates of France, said, "In ten years' time there will be 32,000 fewer recruits to replenish the forces than at present, while in twenty years the available recruits will have fallen 58,000." France would in time depopulate herself without war or violence at her present pace downward.

S. H. Leroy Beauieu, professor in the Free School of Political Science of France, says: "The French people are rushing on to suicide. If they continue on this course, the French nation, those of French stock, will have lost a fifth of their number before the expiration of the present century and will absolutely have vanished from Europe by the end of the twenty-second century."

Should the death rate be what it was a century ago, it would probably even now exceed that of the birth rate in America. The lowered death rate in America is chiefly due to suppression of epidemic or communicable diseases. We can not hope to keep on indefinitely reducing the death rate by merely giving attention to public hygiene.

We have about reached our lowest point attainable through this means. Soon the death rate will be at a standstill, and after a time from the constantly increasing death rate from organic diseases, the general death rate will again increase. With an increasing death rate and a decreasing birth rate, it will merely be a question of time until we shall exhibit the same state of affairs now evident in France. We will yet have to learn that personal hygiene is of much more great value than public hygiene, and that it is vastly more important to have clean blood than it is to have clean back yards.

Children from sanitary homes advance more rapidly in school than those from dirty premises?

## MEDICAL LEGISLATION IN THE UNITED STATES.\*

1.

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One result of our organization as a people into a National Government, which continues the States as legislative units in the most fields of ordinary activity, is a vast multiplication of laws. We might perhaps be characterized as a law making, instead of a law abiding people. The common law theory is that law is merely the expression of the habits of the community; the legislative theory too often is that legislation must change habits; or, that it must force upon one section of the community the habits of another.

No people can assimilate laws as rapidly as our legislators pass them, and consequently we always have a great mass of undigested legislation. Fortunately, the majority of people with a law abiding spirit, are unaware of much of this public legislation, and as they do not disturb the public peace, they pass through life largely ignorant of their numerous infractions of legislative law, just as a man remains ignorant of his stomach until it begins to bother him.

In the field of medical legislation our Solons' activities are well to the forefront in numerical effort.

I have designed today to bring the selected subject to your attention in the light of its history, of its recent characteristics, of its constitutional aspects, of its inherent theory, of its contrast with the English theory, and finally of some of its exceptional aspects.

Broadly speaking; "Medical legislation" should be considered as co-extensive with the laws relating to human ailments and disorders, and in that sense as including preventive as well as remedial measures, and consequently as embracing: laws regulating admission to practice, commonly designated as "medical laws;" laws regulating actual practice, such as those relating to the conduct of physicians in their official capacity, including laws for the reporting of vital statistics, and for the regulation of the administration of particular remedies of a supposedly harmful nature; laws relating to the purity of drugs and foods, and all laws, in fact, falling within that branch of the police power which relates to the public health.

But such is not the sense in which medical legislation is now ordinarily understood; it would not commonly be considered to embrace laws relating to the public health which do not concern specifically the conduct of practitioners of healing.

And so complex has our civilization and the corresponding development of our legislative activities become that even our medical legislation, or what would formerly have been deemed within the scope of that term, has differentiated the fields of midwifery, nursing, pharmacy, dentistry, optometry, osteopathy, chiropody and even manicuring, and in some States at least has passed separate laws to deal with these subjects or some of them, though originally considered as falling within the scope of the medical laws if governed at all by statute.

When I use the term medical laws and medical legislation I shall confine it to those laws which regulate admission to the practice of the profession of medicine by a physician or surgeon. These laws have very little to do with the *practice* of the profession; they concern mainly admission to practice.

\*Abstract of the presidential address delivered May 22, 1915.

It is not my purpose to dwell upon the particular laws of the several States, but merely to generalize and depict types. The early laws were of extreme simplicity, the recent ones of great complexity of detail; the early requirements were likewise simple, the modern ones greatly multiplied; the early types were of two classes, those providing merely for registration, and those providing for admission by a corporation of physicians; the modern ones tend toward admission by a State board, indicating a transference of function from the chosen representatives of a profession to politically appointed office-holders; the early ones rarely distinguished any school or theory of practice; the modern ones tend to the specific separate recognition and legalization of any sufficiently numerous set of practitioners, professing any theory of treatment whatsoever; the early ones were extremely lax in their standards; the modern ones tend to the legislative prescription of minimum standards, which are growing stiffer all the while; but they are likewise characterized by a mitigation of standards, for any sufficiently clamorous body of dissenters.

It is noteworthy that with the elevation of standards by law, the number of legislative licenses to depart from those standards likewise increases. We have, adopted, perpetuated and multiplied laws based upon a theory which England abandoned altogether over half a century ago. Our laws are framed on the theory of prescribed legal standards, the English laws upon the theory of freedom of practice for all. Our laws are prohibitive in their tendency, proscribing as criminal all practice by all unlicensed practitioners, thus giving ground for emotional appeals to fair play and religion by every new sect which fancies it has mastered the theory of human ills and found an open sesame to physical perfection. The English laws are merely educative, not prohibiting practice by any one who wants to do so, and who can find patients, but merely prohibiting them from falsely claiming to be what they are not; distinguishing between qualified physicians who comply with the legal requirements for qualifications and others who may practice if they choose, but cannot falsely represent themselves as within the qualified class.

Our theory is that if we do not crush ignorant practitioners, they will endanger the public health. The present English theory is that it is not necessary to prevent anybody who wishes to from treating anyone who will permit it; that this is a matter of private concern merely; but that the government should enable its citizens to learn if they wish to, who has met the standard requirements. Consequently, the English medical laws merely provide for the entry in an official register of those practitioners who have complied with the legal standards, with certain provisions for their recognition as licensed practitioners, and with certain severe penalties for misrepresentation of status. They seem to recognize that if those who have failed to meet the legal requirements are prohibited from misrepresenting their status, the public health will not suffer to any appreciable extent by letting anyone who will, treat human ills as he has a mind to.

Pearson, J., in *Davies vs. Makuna*, 54 L. J., N. S., at 1150 said:

"Possibly it was not thought necessary to prevent all unqualified persons from practicing, and it may well be that the legislature, knowing the habits and customs of the English people, was willing to leave a wide door open, especially to persons of the other sex, such as rector's wives and 'ladies bountiful,' who with little experience and large benevolence delight to administer medicines to the poor."

This invites the inquiry whether we have not made a psychological mistake in the severity and increasing stringency of our medical laws.

But I promised a historical survey of medical laws. Our own, in their origin, are derived from English ancestry, though now so radically different. Therefore it may not be unprofitable to commence our history with English law.

The evolution of medical laws in the sense in which I have used the term, appears to have started with the barber, for long before the English law attempted to deal with or regulate physicians as a class or to extend to them any privilege or class recognition, Edward IV, in the first year of his reign (1442), granted a charter to the barbers of London, who, as surgeons, were then employed to cure and heal wounds, blows and other infirmities, to let blood and draw teeth. The charter of this company of barbers was confirmed in the reigns of Henry VII and of Henry VIII.

With the act of 3 Henry VIII C. 11 (A. D. 1511), began (so far as I have discovered) the English legislation relating to the practice of the medical and surgical art. It was then provided that no person within London or seven miles of it should exercise as a physician except he be first examined, approved and admitted by the Bishop of London or by the Dean of St. Paul's calling to them four doctors of physic, and for surgery other expert persons in that faculty; and that no person beyond the said seven miles precinct of London should exercise as a physician or surgeon in any diocese unless first approved by the bishop of the diocese, or in his absence by his vicar general; either of them calling to them such expert persons in the said faculties as their discretion should think convenient. The act was not to be prejudicial to the universities of Oxford and Cambridge, and it provided that surgeons should be comprised in the act like as physicians, for like mischief of ignorant persons presuming to exercise surgery.

Here then is the complete prototype of modern American legislation, with its fundamental concepts of an examination, a license, a prohibition and an exception.

The English have forsaken the prototype and substituted, as I have stated, another ideal, for the preamble of the present medical act (21 and 22 Vict. C. 90, 1858, as subsequently amended and supplemented), recites that its object is to enable persons requiring medical aid to distinguish qualified from unqualified practitioners.

The act of 1511 was, however, a crude beginning, and seems to have proved a disappointment. For on September 23, 1518, in order

"to restrain the boldness of wicked men, who professed physic more for avarice than out of confidence of a good conscience, whereupon many inconveniences did arise to the rude and credulous common people: therefore partly imitating the example of the well-governed cities in Italy and many other nations, and partly inclined thereto at the request of the great men and doctors \* \* \* his physicians, and chiefly of the Henry VIII, in the tenth year of his reign, instituted a college perpetual of doctors and grave men, who might publicly exercise physic in his city of London and the suburbs, and seven miles from the city every way, and who might in his honor and in the name of the public good and care deter the ignorance and rashness of the malicious, by their gravity and example, as well as punish them by his laws late made (3 Henry VIII, C. 11), and by constitutions to be made by the college; and provided that no man should practice physic in London or within seven miles thereof, unless he be admitted by the president and college under its seal.

Here we see a prototype of another early American idea, for while the law of 1511, instituted, as it were



a State board, under the supervision of the spiritual authorities, the charter of 1518 prohibited practice within the limited district there described, without the express permission of a corporation of physicians; thus transferring the privilege of license from the direct representative of the government to a body of practitioners.

This charter was confirmed by Acts of 1522 (14 and 15 Henry VIII) and of 1553 (1 Mary C. 9), and the institution thus founded still continues as the Royal College of Physicians of England. Its earlier designations were the president and college or commonalty of the Faculty of Physics in London and the Royal College of Physicians of London. It has had a long and honorable history and several most interesting litigations have arisen from attempts to enforce and attack its rights and privileges.

The difficulties attending attempts at prohibitory medical legislation were experienced very quickly. For notwithstanding the legislation of 1511 and the charter of 1518, in 1522, we find an act (14 and 15 Henry VIII) confirming the charter of the Faculty of Physics, reciting that it was expedient and necessary to provide "that no person of the said politick body and commonalty aforesaid be suffered to exercise and practice physick, but only those persons that be profound, sad and discreet, groundly learned and deeply studied in physick." This act provided that no person should thenceforth exercise or practice physick through England until examined at London by the president and three elects, chosen from the most cunning and expert men of and in the said faculty of London, except he be a graduate of Oxford or Cambridge. Thus after fifteen years of experience with bishops, deans and vicar-generals, the king and parliament turned to cunning and expert men of the faculty, but still excepted graduates of the two universities, and still prohibited all others.

We must not lose sight of the surgeons, first cousins to the barbers, and of ancient and honorable lineage in that connection; we will recall that in 1511 they were to be licensed by the spiritual functionary calling "for surgery other expert persons in that faculty" or such expert persons in the said faculties as thier discretion should think convenient.

But in 1540 the Faculty of Physics seems to have resented the privileges of the surgeons, for Sec. III of C. 40, Laws 32 Henry VIII (1540) we find:

"And for as much as the science of physick doth comprehend, include and contain the knowledge of surgery, as a special member and part of the same; therefore be it enacted, that any of the said Company or Fellowship of Physicians, being able, chosen, and admitted by the said President and Fellowship of Physicians, may from time to time, as well within the City of London as elsewhere within this realm, practise and exercise the said Science of Physick in all and every his members and parts; any act, statute, or provision made to the contrary notwithstanding."

Thus did the Faculty, after 18 years of privilege invade the domain of surgery, there to remain, but not to oust the surgeons.

The surgeons seem likewise to have been jealous of their privileges, and meanwhile to have formed an unincorporated society of surgeons; for by C. 42, of the same year of Henry VIII, the Barbers of London, incorporated as I have shown by letters patent in the first year of Edward IV and confined in their privileges by Henry VII and Henry VIII, were united with this unincorporated society of the Surgeons of London, under the name "Masters or Governors of the Mystery and Commonalty of Barbers and Surgeons of London." Among other provisions, this law required every surgeon in London and for one mile around to expose a sign "that all the King's liege people there passing may

know at all times whither to resort for remedies in time of necessity." This law sought to put an end to barber-surgery, for it forbade barbers to use surgery or letting of blood or any other thing belonging to surgery, except drawing of teeth, and forbade surgeons to use the feat or craft of barbery or shaving, either through themselves or others, and it empowered any person to keep a barber or surgeon in his house as servant.

Here we have a prototype of that sort of present day medical law, which, while recognizing two schools, or so-called schools, of practice, forbids one to enter the domain of the other; such, for instance, as licenses certain practitioners, but forbids them to administer drugs or medicines, or to perform major surgical operations or to furnish certificates of death, allowing them to treat the living, but refusing to allow them to explain any cause of death.

The physicians and the surgeons, respectively, thus launched in law, were given certain prerogatives or public functions beyond the mere practice of their arts, for, by C. 40 of 32 Henry VIII (A. D. 1540), physicians were exempted from certain official duties, and the representatives of the Faculty were empowered to examine apothecaries' wares for defective, corrupt, etc., wares, drugs and stuff.

Here we have the prototype of the pure food and drug acts of the present day, save that it was the Faculty of Physic, and not the town prosecutor, who acted as inspector.

And, I fancy, that in this privilege, we have the explanation of the time-honored custom in England, that a physician does not compound his own prescriptions, but leaves that to the apothecary (of whom more later), for from early days until after the medical law of 1858, the Royal College of Physicians had a by-law prohibiting its licentiates to compound the medicines which they prescribed. The repeal of this by-law, shortly prior to 1861, led to a litigation against the college, in the interest of the Apothecaries Company, which effort failed. I surmise that the by-law was dictated in an early effort to make the Faculty's inspection of apothecaries' wares more effective, and to insure the use of fresh and pure medicaments. It had continued in force so long that several judges seem to have erroneously regarded it as an inherent part of the law of England.

But let us hark back to physicians and surgeons to see history, not repeating itself, but anticipating itself; for Parliament and Henry VIII, in 1540, having gotten everything fixed to prohibit barbers from practicing surgery and surgeons from barbery and shaving, and surgeons from physicking, but permitting physicians to practice surgery, and graduates of Oxford and Cambridge to do anything they pleased, woke up to a surprised appreciation of the results.

For the bars having been put up and criss-crossed, and having a turnstile through them, for certain privileged characters, parliament and the king then discovered, some apparently, unexpected consequences.

By Act 34 and 35 Henry VIII, C. 8 (A. D. 1542-1543), was enacted "a bill that persons, being no common surgeons, may minister medicines notwithstanding the statutes." Its preamble arraigns the surgeons of London since 3 Henry VIII, C. 11 "minding their own lucre" and contrasts them to their discredit with the men and women whom God has endowed with a knowledge of herbs, etc., who have ministered to poor people only for God's sake and of pity and charity, while the surgeons let them perish for lack of help of surgery, practising only where there is hope of reward." This



law gave persons having knowledge and experience of the nature of herbs, roots and waters, etc., the right to practice, use and minister in and to any outward sore, uncome, wound, etc., any herbs, ointments, etc., according to their cunning, experience and knowledge.

So, here we have the prototype of the American legislation in favor of Thompsonnaries, Christian Scientists, Faith-healers and Clairvoyants.

We have thus, during a few years of the reign of Henry VIII, seen foreshadowed almost, if not all, of the types of medical legislation, which have been repeated and are still being repeated by our American solons, and for precisely the same conflicting reasons, made up of the clamors of the expert, the pure food and drug agitator, the privileged and favored classes, and those whom God has endowed with peculiar faculties (of their own exclusive perception).

(To be continued.)

### OBSERVATIONS ON THE RECENT "GRIPPE EPIDEMIC."\*

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Not to go exhaustively into the history of the gripe one may say that for about a generation people have been familiar with the name and the characteristics of this disease, though the make-up of its varied role has differed in different years.

One who has lived since 1889 and has not had the gripe gives the very best evidence of an unusual immunity or an unusual good fortune which are in a sense synonymous. There are a few such people. In that year the most severe epidemic of this disease attacked people in various parts of the world and in this country particularly—and in this epidemic the cardinal symptoms and the differences between the gripe and other diseases e. g. the common cold were plainly noted.

Not to be too technical, one may say that in that year one could have the common cold—as one had always had it—and still keep going; but if it was the gripe one might as well cry "down" at once as struggling with it only made the "down" more certain.

Since that time we have looked upon the gripe as endemic and whether there is a certain increased immunity on the part of the people or the disorder is wearing out its infecting organism becoming attenuated, or both, it would certainly seem as if the manifestations of the affection were less intense as the years go by, and for this reason the early cases of succeeding years are not always promptly recognized.

Those marks which set this complex disorder apart as an entity are a sudden onset, coryza and sore throat, pain, prostration, toxæmia with fever and the sequelæ. From its character and course we are undoubtedly justified in considering this disease as of infectious origin.

From a period of excellent health the victim of the gripe suddenly finds himself, often in a few hours, suffering with some kind of an attack. Very likely the first group of symptoms comprises sore throat, chilliness, headache and muscular pains in back and legs; of all these I think the chilliness is most constant. Fever is usual—varying widely in degree. In the recent epidemic I have found it generally lower than formerly and a few cases, otherwise characteristic, showed no rise of temperature. Depression of spirits, accompany-

ing prostration often baffles every effort of the individual to keep up.

The mucous membranes of the upper air passages so commonly affected in the earlier attacks of influenza, have this time been irregularly affected, many cases showing little of this group of symptoms.

That the causative factors, while probably entering the body at the respiratory gateway can rapidly reach some distant part of the organism and leave the portals of entrance unharmed is well believed; all of us have seen attacks affecting only the digestive tract so far as mucous inflammation is concerned.

Again there seems to be reason to attribute to this infection certain erythematous outbreaks which simulate but do not closely copy the exanthemata, and as well there are cases of laryngitis accompanied with all depressions and prostration of the gripe and cases of pharyngitis with more than the usual depression of this local inflammation, which seem to be properly classed as cases of the gripe itself.

In the intestinal form suddenness of the onset marks the characteristic invasion. Not that every upset stomach or case of indigestion is a case of gripe, but many cases do not get well quickly and we recognize in a gastro-intestinal crisis the earmark of an infection quite likely—the gripe. Sudden emesis, catharsis, marked anorexia, epigastric pain, little tenderness and no localization of tenderness are evidences of toxic invasion and the gripe can produce this state of affairs.

But the variety is as endless as of the pictures one can see in the snow-covered boughs of the forests where the cold and the snow and the trees are the underlying elements. So the clinical symptoms of the gripe are as definite though in infinite diversity of arrangement.

The complications are well recognized. (It often seems as if there were two or three disorders in one.) The tendency to relapse in shorter or longer time. The possibility of sequelæ, the gradual recovery and on the whole the general seriousness of the conditions in the experience of the past generation, tend to make us cautious in speaking of this disease. I am disposed to regard the gripe as a disease of major medicine in view of its serious possibilities—leading as it often does to most alarming disorders, meningeal, pneumonic, aural and gastro-intestinal, and short of these—most annoying symptoms often causing greatest suffering of neuralgic and rheumatic character.

Speaking of rheumatism, whatever that may be, we have all seen cases of acute sore throat where subsequent involvements of serious membranes in the great joints or the linings of the cavities of the heart serve to differentiate lesions which we are wont to class as rheumatic it would seem quite possible that we are dealing with a great class of bacterial infections where the difference in severity of the symptoms is due to greater or lesser virulence on the part of the infecting organisms.

As for treatment we all have our pet prescription for the case in hand. To me the most valuable element in the care of these patients is rest, absolute rest. Without it all other treatment, dietetic or hygienic or medicinal is of but secondary value. With rest, the course of the disease is shortened and the patient may steadily recover. Without it we are but courting trouble and complication and paving the way for sequelæ of major importance.

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The United States Public Health Service believes that the common towel spreads trachoma?

\*Read before the Brooklyn Society of Internal Medicine, Feb. 28, 1916.

# RULES OF THE ACUTE ABDOMEN.

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The management of the "acute abdomen" is one of the problems with which the family practitioner is frequently confronted, and depends so largely upon the skill which he exercises for a happy outcome, that a consideration of the fundamental principles which govern the treatment of these cases will help to reconcile the physician and the surgeon in a unity of purpose and a uniformity of procedure.

By the "acute abdomen" is meant that symptom-complex of the abdomen which proclaims the presence of some acute intra-abdominal lesion. It may be a perforation, an appendicitis, an obstruction, or a strangulated hernia, but whatever the lesion, it resolves itself into a localized peritonitis which is manifest by the "acute abdomen"—*pain, nausea and vomiting, tenderness, and muscular rigidity*. Whenever this symptom-complex is present there is a localized peritonitis depending upon some specific intra-abdominal lesion. It is well to understand definitely that there is no such thing as a choice of methods in treating the "acute abdomen." It is the merest folly for the physician to carry the case along as far as he can and when his medication proves futile, call in the surgeon to inaugurate an entirely new method of treatment. There is only one treatment of the "acute abdomen." In this treatment the physician and surgeon each play an important role—a role of co-operation: Each bears an equal responsibility, each contributes his share to the favorable or unfavorable results.

The treatment of the "acute abdomen" is distinctly surgical from the start, and he who treats it assumes the role of surgeon. In other words, in the presence of the "acute abdomen" the physician's viewpoint must be the viewpoint of the surgeon, in order that the problem may not be complicated by a preliminary medical skirmish which only weakens the lines of defense and often renders further surgical aid futile.

The treatment of the "acute abdomen" is pre-operative and operative. This definitely fixes the status of the physician and surgeon; the one preparing the patient for operation, the other performing the operation.

It is this pre-operative treatment of the "acute abdomen" that needs to be definitely emphasized; and the surgeon's operative results will continue to be far from satisfactory until there are some uniform and standardized rules of procedure which appeal with equal force to physician and surgeon.

When the physician is confronted by the "acute abdomen" his further treatment should be directed toward preparing the patient for operation—that is, toward putting the patient in the best possible condition to receive the benefits of operation.

**Rule I:** *In any acute abdominal lesion never give a dose of morphin until a diagnosis has been made and the treatment determined.* Morphine is the most useful drug in the pharmacopeia, but it has been much abused. Its prompt and assured action in the relief of pain has rendered it a "fool's paradise" in the hands of those who act first and think afterwards; whereas it should be a sheet-anchor in all acute abdominal lesions when properly used.

**Before Diagnosis** it masks the symptoms, gives a false sense of security, and encourages that fatal spirit of procrastination which is responsible for most of the fatalities of the "acute abdomen."

**After Diagnosis** it is always indicated in the

"acute abdomen" since it relieves the patient's distress, inhibits peristalsis, narrows the field of psychic disturbance, conserves the vital forces, and renders the general anaesthesia simpler and safer.

**Rule II:** *In any acute abdominal lesion close the mouth and keep it closed until the condition is relieved.* In all acute abdominal conditions the aim should be to put the gastro-intestinal tract in a state of quiescence, and this important fact seems to be the least understood by the general practitioner, for it is this rule that is least observed. Ninety per cent. of all cases of "acute abdomen" referred to the surgeon have had a cathartic prescribed and have been permitted to partake of food. How can the gastro-intestinal tract remain quiescent if food or cathartic is introduced. The great disturbing factor is peristalsis and everything which stimulates peristalsis is to be eliminated. The introduction of food and the use of cathartics are the two disturbing elements, the use of either increases peristalsis, and hence helps to distribute rather than localize the infection. Even the introduction of water by mouth is to be discouraged as this excites peristalsis. It is better to inaugurate the "Murphy drip" as soon as the "acute abdomen" is diagnosed. This method will introduce sufficient fluid into the bowel to allay thirst without starting the peristaltic wave. Even in the gravest illness it is curious to note the concern of the family for the patient's diet.

"What shall we give the patient to eat?" is the query that besets the family physician and often forces him to an unwilling compromise. In the "acute abdomen" the patient should be given nothing to eat; the machine is out of order, why attempt to run it before it is repaired? Are we to learn nothing from the nausea and vomiting? This symptom proclaims the fact that nature is trying to rid the intestinal canal of everything that excites peristalsis, we cannot do better than co-operate.

**Rule III:** *Never prescribe a cathartic—a purge is the most deadly medication that can be employed in any acute abdominal lesion.* It seems almost impossible to get away from the old tradition that every "bellyache" should receive a dose of castor oil. Notwithstanding the immense amount of damage that has been done by the routine practice of prescribing for abdominal pain without making a careful examination of the abdomen, the practice still continues, and it is rare for the surgeon to see an "acute abdomen" that has not already been thoroughly purged by the attending physician.

It is bad enough to permit patients with an "acute abdomen" to take food, but there is no excuse for deliberately prescribing a cathartic when it is not only positively contra-indicated but its employment is fraught with grave danger.

Many a case of appendicitis has resulted fatally because of the employment of cathartics. If the prime indication in the treatment of the "acute abdomen" is to render the intra-abdominal viscera as completely quiescent as possible, what reason is there for using a cathartic? A cathartic puts the gastrointestinal tract in a state of peristaltic motion, and any lesion within the abdomen is not only intensified but the infectious foci are distributed.

It would be as rational to subject a fractured limb to a process of shaking as to prescribe a cathartic for the "acute abdomen," only the danger in the "acute abdomen" is greater and more irreparable. The operative results in acute appendicitis, strangulated hernia, intestinal obstruction are far from what they should be largely because in the use of cathartics physicians have failed to grasp the surgeon's viewpoint.



Take for example the usual history of an acute intestinal obstruction. Why is it that the surgeon would gladly avoid these cases if he could; because it is the rarest thing for a surgeon to get a case of intestinal obstruction that has been rationally treated by the physician.

As a rule an earnest endeavor has been made to blast an opening through the obstruction by means of cathartics, which has produced three grave complications: The obstruction's grip on the bowel has been tightened; the constant purging has bled the patient into his own bowel and lowered his vital resistance; the bowel proximal to the obstruction has been flooded with fluid feces, the toxic absorption from which slowly precipitates a state of shock.

It is evident that the cathartic has only aggravated the pathology already initiated and the physician's efforts have only succeeded in complicating the surgeon's problem.

The clear indication in these cases is to close the mouth and open the anus, for all that the physician can hope to accomplish may be accomplished by an enema. The physician's chief obligation is to bring these patients to operation as speedily as possible.

**Rule IV:** *In strangulated hernia and intestinal obstruction the physician should never leave his patient until the strangulation or obstruction has been relieved or he has made arrangements for its immediate operative relief.* This rule first formulated by Ashurst, if practiced as a routine, would revolutionize our operative results in these two frequently fatal conditions.

It is the rarest thing for a surgeon to see an early case of strangulated hernia or intestinal obstruction. It would seem that in these two abdominal catastrophes where procrastination is the least tolerable, procrastination is the most prevalent.

We must get our "acute abdomens" to earlier operation if the patient is to reap the benefits of operation—of what use is our knowledge if applied too late?

Something is wrong with the fundamental conception of the relation of physician and surgeon that any such conflict should be possible. The physician and surgeon are not competitors, they are partners in the art of healing. In order to do worthy work they must do team work. Procedures must be standardized if efficiency is to be attained.

394 Clinton Avenue.

### OTITIS EXTERNA.

MAX LUBMAN, M. D.,

ASSOCIATE OTOLOGIST AT HAR MORIAH HOSPITAL,  
New York.

It is absolutely essential that the general practitioner know the symptomatology and diagnosis of otitis externa, not solely because it is a serious affection *per se*, but because it simulates in its course other serious conditions requiring immediate surgical interference. Delay in its recognition and treatment may endanger the life of the patient. It is, therefore, of the utmost importance that the physician should be capable of making a differential diagnosis.

To assure a clear understanding of the subjective and objective symptoms of an otitis externa, it will not be amiss to roughly consider the anatomy and morphology of the external canal.

The external canal is made up of two portions: the cartilaginous and the osseous. The cartilaginous portion is a continuation of the auricle contains sebaceous and ceruminous glands. The osseous portion is covered with mucous membrane and has no glands. The

cartilaginous and the osseous portions are united by coarse connective tissue rich in elastic fibers.

Morphologically the cartilaginous portion is developed from a continuation of the auricle, while the osseous portion of the canal, including the anterior, inferior, and the lower portion of the posterior walls, is developed from the tympanic ring. The upper portion of the posterior wall, and the superior wall of the roof are developed from the squamous portion of the temporal bone. One can readily note that an otitis externa will vary in its symptoms according to the part involved. If the involvement is in the cartilaginous portion, it will naturally involve the soft tissue around that portion of the canal, as the pinna, the posterior and anterior auricular glands, because of the communication between the lymph channels and these glands. If the osseous portion is involved it will invariably invade the tympanic ring, as well as the superior and posterior walls, and in addition one may also find an injection in the drum along the handle of the malleus.

From the foregoing analysis one can readily understand that the cartilaginous portion, if affected, is more apt to simulate mastoid involvement. The following description presents the picture of an otitis externa in the cartilaginous region. The patient complains of a sudden pain in the ear which is constantly aggravated at night and prevents sleep. Upon examination one finds an accelerated pulse, a rise of temperature and a coated tongue. The patient looks sick and depressed. Upon inspection one finds more or less swelling behind the ear, as well as in front of the tragus, which is very tender to the touch. The post-auricular fold has disappeared and the auricle is pushed forward. An examination with a speculum, a very painful proceeding to the patient, discloses a swollen and aedematous canal, and the drum obstructed by the swelling.

With such a case before us for attention, the question naturally arises, is it a case of an acute otitis media in a severe form where the infection has broken through the cortex and produced a subperiosteal abscess—the swelling in front of the tragus indicating an involvement of the zygomatic cells, requiring an immediate operation or is it a case of otitis externa making an operation unnecessary? It is my desire therefore to point out and tabulate concisely the cardinal symptoms of an otitis externa and of an otitis media respectively, and thereby assist in making a differential diagnosis.

<i>Otitis Externa.</i>	<i>Otitis Media with Mastoid.</i>
1. Quite rare in children.	Very common in children.
2. Due to mechanical irritation, as cleaning the ear with a hairpin or a match, and infection caused this way.	Mostly secondary from nasal retro-nasal space, or through involvement of the Eustachian tube.
3. Pain is more or less localized around the ear.	Pain deep in the ear.
4. Temperature 100° to 101°.	Temperature 103° to 105°.
5. Pulling the auricle up and down is very painful.	No pain at all.
6. Mastication painful.	Mastication not painful.
7. Superficial pressure upon mastoid very painful, deep pressure less painful.	Deep pressure painful, superficial pressure not painful.
8. Swelling in front and back of ear an early symptom.	A late symptom.
9. Swelling of canal is typical.	Canal never swollen, except when secondarily infected.
10. Pressure upon the canal in the post auricular fold will give pain.	No pain.

All these points should be carefully considered in every doubtful case. The symptoms in the one case are invariably the antithesis of the other, and a correct diagnosis should therefore present no insuperable difficulties.



## ADDRESS ON GYNECOLOGY.\*

HENRY C. COE, M. D.,  
New York.

The custom of inviting a medical man to address you at the annual meeting has been followed for nearly half a century and the addresses themselves form a striking commentary on the progress of medicine and surgery during this period. Only three of the eminent physicians of that older generation now survive in honorable retirement; the rest have gone to their reward.

I have reviewed recently the annual reports of the past forty years, with mingled feelings of pride and sorrow—pride in the growth of the institution with which I have been connected since my student days, which I expect to serve as long as I live, and sad recollections of the noble men and women who are now only fragrant memories. To my younger brothers I can point to no higher inspiration than the records of their devotion to the hospital, enshrined in the loving tributes that appear in the old reports. Only one who knew and worked with them can understand how deeply I revere those whose visible presence is no longer with us.

I wish that I could pay an adequate tribute to our Boards of Managers, who have sustained the hospital for sixty years by their great generosity and self-sacrifice. I can only say: "If you seek their monument, look around you." How delicate and difficult their functions have been can only be appreciated by those who (like my old friend Dr. Cleveland and myself) have sustained the dual rôles of attending surgeon and trustee in another institution for over twenty-five years. It is impossible for medical men who have not had this experience to understand why it is not always practicable to institute the radical reforms, or to supply the costly apparatus necessary in a modern hospital, as promptly as they may desire.

The financial question must always be uppermost in every institution that has not an endowment which renders it independent. To those who are familiar with hospitals in London, supported almost entirely by annual subscriptions, the condition of the institutions in this city—not under municipal control—appears to be most enviable. "Preparedness," whether civil or military, implies a heavy expense. We must not forget this. But it is my purpose to dwell almost entirely on the medical side of our work.

What makes a hospital successful? To the laity the answer is usually its financial standing, the number of patients and operations, the present relief afforded to suffering humanity.

The scientific observer, on the contrary, will look rather to its value as a teaching center, to the well-trained young men whom it sends forth, to the contributions to science in the line of original research, clinical statistics, or new and perfected surgical technic. There is no antagonism in these apparently diverging views, for the modern hospital should include all these functions.

Among the past medical addresses none excels the scholarly one of that pioneer of abdominal surgery, Dr. Peaslee (delivered in 1873), who even at that early day sounded this note of warning: "There is danger that the hospital may lose its pre-eminence." He boldly asked for an endowment of a million dollars (!) so that it might become "a great institution of learning—the great school of gynecology." It is significant that he emphasized the fact (now apparently almost lost sight of) that surgery is not synonymous with gynecology,

but that therapeutics should form a prominent feature of the teaching. He even called attention to the most valuable lesson to be learned by internes—the gentle and tactful handling of suffering women, for he was himself a fine gentleman; in the old sense of one who does gentle deeds.

Glancing through subsequent addresses, I note a glowing tribute to Listerism by Dr. Weir in 1881, the forerunner of modern asepsis; a short, peppery address by Dr. Loomis in favor of making the hospital entirely a charitable one (though he refrained from stating how the necessary money was to be raised); and a strong plea from Dr. Draper for increased clinical teaching. The latter point seems to have been emphasized by many of the succeeding speakers, all of whom dwelt upon the fact that the Woman's Hospital represented the foremost school of gynecology.

In 1901 Dr. Polk, in his brilliant address on "Specialization in Surgical Work," called attention to the fact that general hospitals were beginning to invade a field in which we had hitherto claimed superiority and uttered this prediction, which I am happy to say has not been fulfilled: "If it can be shown that the general surgical hospital is able to turn out as good specialists as you can, in time you will wither and die." He pleaded for the avoidance of "narrowness and the exaggeration of minutiae," and added that "the curse of our profession to-day is the half-baked, underdone specialist." We may well heed these monitions fourteen years later.

With the opening of the new hospital, and the infusion of fresh blood into the attending staff, the medical world had a right to ask: "For what will the Woman's Hospital stand in the future—for the outworn teachings and operative technic of the past, or for modern, progressive gynecology, such as is now practiced all over the country?" Will it resume its former position as a leader in clinical teaching and the training of alumni such as have made it famous in days gone by, or will it "wither and die" in competition with general surgical hospitals? I would do a grave injustice to our energetic and ambitious medical staff if I did not congratulate them on the way in which they have "made good" in upholding all the best traditions of the past. But, if I call attention to the need of still greater efforts in the direction of progress, I know that they will fully agree with me.

I am jealous of the reputation of the hospital, in which I was nurtured, and to which I am bound by so many tender memories, and you know that such suggestions as I may offer are most kindly and sincere, because I am "in the family."

Dr. Delavan sounded the keynote in his admirable address (delivered four years ago), when he said: "The Woman's Hospital has had a function as a place where new discoveries could be made and new principles of surgery developed." He pleaded for scientific methods, for more accurate case-records, for the study of cases and of end-results, and to that end emphasized the need of a better equipment, especially in the direction of modern apparatus and a well-appointed pathological laboratory. Pelvic pathology has ceased to be a theoretical study in the library, but is developed in the laboratory and in the post-mortem (as well as in the operating) room. We shall not make any real advance as a recognized scientific institution except in this direction. Well-digested clinical facts are indispensable, improvements in operative technic are always commendable, but research is the road to work of permanent value in our specialty, which I am not ready to admit is obsolete, as some of our critics affirm.

With the beautiful laboratory, Mrs. Thompson's:

\* Address delivered at the Annual Meeting of the Woman's Hospital, New York, December 9, 1915.

noble gift, I feel that we shall be ready to begin a new era in our history and be able to prove to the world that not only in operative technic, but in scientific observations, we are fully abreast of the times. We owe this to our generous donor, as well as to our profession. There is no way in which we can express better our appreciation of her benefaction. Fortunate is the institution which throughout all its history has never wanted noble women in its hour of need! Their reward is not limited by these narrow bounds of time, but continues into the life beyond.

I do not propose to discuss the much-vexed question of the extension of gynecic to abdominal surgery. If a gynecologist can do an intestinal anastomosis or a gall-bladder operation as well as a general surgeon (which I doubt) it is not for me to express criticism. The main point with us is to prove that we can clearly recognize the indications for gynecological operations and perform them so much *better* than our surgical confrères, that both the profession and the laity will recognize our *raison d'être*.

So much for the surgical side. But is this *all* of gynecology? I fear that the young men who go out from here carry that erroneous impression with them into their future careers, to the detriment not only of themselves, but of their patients.

The atmosphere of the operating-room, the rapid succession of patients, who remain under observation on an average of three weeks, are not favorable to careful observation, or to a proper study of cases, while the "specimen" seems to be interesting to the average interne only while it is being obtained. The same rush and superficiality, which is a mark of our modern life, prevails in hospitals. To get a patient in and out, with a brief statement of her operation and its immediate result, seems to be the routine business of most of the institutions with which I have been connected.

I have asked in vain here for the so-called "treatment" cases of former days, for evidences of the "medical gynecology" which occupied such an important place in the old hospital, and from which we learned far more than from simply assisting at operations. They are almost extinct. There is no time to bother with them, and I doubt if our internes would have the patience (if they had the time) to spend hours over them as we used to do. This is *not* an improvement over the old way, tedious and uninteresting as it may appear to the young fellow who views every patient from a surgical standpoint. Here is certainly a chance to restore one important function of the hospital. Obviously we cannot re-introduce the careful study of individual cases before and after operation, the keeping of careful records and proper attention to pathology (I do not aim so high as original research) without an increase in the present house-staff, which I would earnestly advocate, and which I am happy to learn has been recently inaugurated. The time-honored custom of "making rounds" with the visiting staff may be revived, not only for the benefit of the patients, but for the proper instruction of the house staff.

Here I approach a delicate subject. For years I successfully resisted at the General Memorial Hospital (even when we were in financial straits) the appointment of associate surgeons, who would have no intimate relation with the hospital and would simply add to its coffers, without increasing its scientific usefulness. You have tried this plan for several years and are best informed as to its advantages. To my mind it is a distinct detriment to the accurate work of the institutions which have tried it, whatever the financial increment may be.

Another delicate matter. As a manager, I have been accustomed to hearing the usefulness, even the success, of an attending surgeon estimated in terms of dollars and cents. So and so sends in the largest number of patients, he always has a big service—ergo, he is the best surgeon. This is a most unfortunate criticism from a scientific standpoint; it is the world's estimate of success, which, as thoughtful men and women, we know to be a false one, since we believe that character is not to be weighed in the same balance with money. It is a painful position for an earnest, conscientious man, to feel that the bulletin-board is under constant scrutiny. I have felt it as a surgeon, while, as a manager, I have regarded myself sternly as "an unprofitable servant."

It is easy to say: "Don't think of the financial question!" But we *must*. I do not know any solution of the problem except Dr. Peaslee's original million-dollar endowment. And these are hard times!

I am a firm believer in civil service reform, and in the promotion of worthy juniors, but within certain limits. As in the army an able officer may be jumped at once from a captain to a brigadier-general, to the apparent injury of his former superiors, so a promising young man should have his chance while he is still full of initiative and enthusiasm. I believe that an alumnus of the hospital should be promoted if he is worthy, but *not* if an outsider is the better man and is likely to be ornament to the institution. Times have changed and hospitals no longer flourish simply because of the great reputation of their attending staffs. Young, energetic, self-sacrificing men are now called for, who can be relied upon to keep abreast of modern advances, and we certainly have such on our staff.

*Esprit de corps* is the soul of successful work. Dissensions in a board, lay or medical, mean disaster. The old days when the two boards were always suspicious of each other and pulled in different directions have happily passed away, just as the bitter rivalries and dissensions between medical men are now recognized as indicative of a narrow, childish mind. "Team-work" is the greatest aid to efficiency—on the playing field and in the greater game of life. When the medical staff learns that laymen are anxious to help them so far as they can, the former will be more considerate in their requests; when the board of managers is sure that their medical staff is working solely for the interests of the hospital, and not for its own aggrandizement, it will regard the requests of the doctors as more reasonable than they often appear.

To this end I have always pleaded for an adequate representation of the medical board on the board of managers, as well as on the executive committee, with a *vote*. This plan has worked well in the institutions in which it prevails, and there is almost an entire absence of friction when the doctors can express frankly the views of their colleagues and can know *why* certain measures which they advocate cannot be carried out.

When I look at this beautiful building, with its modern appliances and all that goes to make an ideal hospital, and think of the disadvantages under which many of our foreign confrères labor, I do not wonder that they envy us our advantages. When I visited the venerable Samaritan Hospital in London, with its bare operating-room, and saw an eminent surgeon perform a serious abdominal operation behind a screen in a ward, one dark winter's afternoon, in the old Charing Cross—because he had no other place—I thought of our own beautiful operating-rooms. But, with all their limited means and unattractive surroundings these men are doing scientific work, teaching students, studying pathology



and training future surgeons. Are we doing that, with our superior advantages? We may well ask that question. It is not the environment, it is *not* the marble walls and spacious wards—it is the *men* who make the hospital now, as that galaxy of surgical talent in the old days made the hospital, to which the older alumni look back with affectionate and grateful thoughts, for *there* their feet were first planted on the ladder of useful and honorable service.

I am not one who lives in the past. This is the age of young men and it is for us who cannot compete with them to help them onward, as our old teachers helped us. I have too much confidence in them, as I have in the men and women who now fill the places of their noble predecessors, to fear that this hospital will ever cease to be what its founders intended—a blessing to suffering womanhood and a training-school for medical men, who will uphold all the finest traditions of their alma mater.

One evening recently I called upon the Nestor of gynecology, Dr. Emmet. I found him feeble in body, but with a mind as alert as ever. "They are all forgotten," he said sadly, "Sims, Peaslee—who remembers them now?" He asked with keen interest: "What are they doing at the Woman's Hospital? I hear that it has become a general surgical hospital. Are they doing any original work?"

As I bade him good night and clasped with reverent touch the frail hand which has ministered to thousands of suffering women, and still wields the trenchant pen, I seemed to see in him (whose name will be immortal when our's have been forgotten) the incarnation of the spirit of service to humanity, our inspiration in the past our guide for the future.

40 East 41st Street.

# **IRREDUCIBLE BACKWARD AND OUTWARD DISLOCATION OF BOTH BONES OF FOREARM AT ELBOW, AND OPERATION.**

J. SHERMAN WIGHT, B. S., M. D.,

ASSOCIATE SURGEON TO THE LONG ISLAND COLLEGE HOSPITAL.

Brooklyn, N. Y.

H. F., age ten, school boy, born in U. S. Referred by Dr. Dee. Family history negative. Past history negative.

Chief complaint: pain and swelling of left elbow. History of present condition: October 19, 1915, he fell on his left arm, injuring it at the elbow. Swelling and discoloration appeared with pain and motion.

Physical Examination: Swelling and discoloration about the left elbow and the forearm bones displaced backward and outward. Motion at the elbow limited.

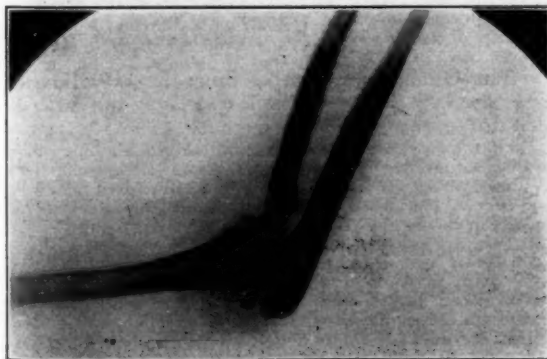


Plate I

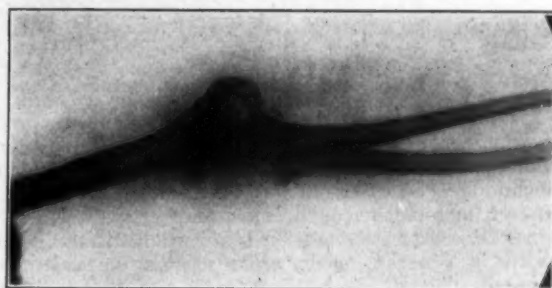


Plate II

X-ray picture, Plate I, shows backward dislocation of both bones of the forearm at the elbow, lateral view. Plate II, shows antero-posterior view; both bones of the forearm dislocated outward as well as backward at the elbow joint.

**Diagnosis:** Backward and outward dislocation of both bones of forearm at the elbow. The head of the radius is pushed through the external portion of the capsule. I sent him to the Long Island College Hospital for operation.

**Decision to Operate:** Reduction would be impossible even under an anesthetic, as the button-hole in the capsule held the radius by its neck, preventing its replacement. The fact that both bones were dislocated outward showed that the orbicular and oblique ligaments had not been torn so the radius and ulna had maintained their relations to each other. If these ligaments had been torn, replacement would leave the upper end of the radius riding forward to impinge on the lower end of the humerus just above the external condyle in flexion, in which case the radial head should be excised.

**Operation:** October 21, 1915; linear osteotomy along the outer aspect of the elbow; the head of the radius was exposed where it had penetrated the capsule, the slit in the capsule was drawn apart and the head reduced, the anterior portion of the capsule relaxed by the posterior position was caught in the joint and had to be lifted forward and held in this position during replacement. The button-hole in the capsule was sewed up, the wound was closed, and the arm was put up at a right angle. Passive motion was started at the end of ten days.

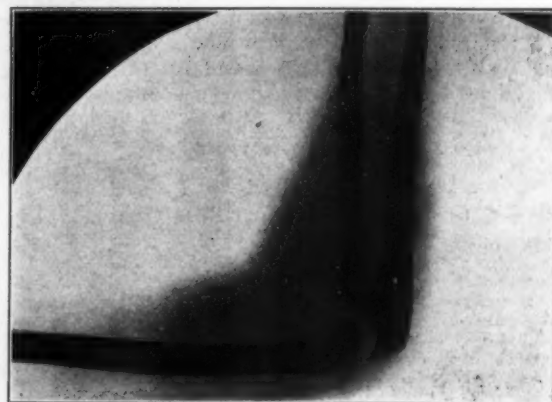


Plate III

Plate III, shows the elbow joint in its normal relations after the operation. Result, a perfectly normal joint. Epiphyses are intact.

30 Schermerhorn St.

## THE DIAGNOSTIC LABORATORY.

Conducted by CHESTER T. STONE, M. D.,  
Brooklyn, N. Y.

### Query No. 1.

Can you inform me whether the gonococcus may ever be gram positive, does it always have the same morphology, and will you give the latest stain for its identification? (H. C. H., M. D.)

Asch and Adler (*Münchener Med. Woch.*, No. 39, Sept. 28, 1915) state that in acute urethritis the gonococcus is generally gram negative, that the older the infection the more gram positive do the diplococci become. These degeneration forms may reach twice to five times the size of the ordinary gonococcus. The fact that in older cases of urethritis gonococci cannot be seen with ordinary staining methods because they resist decolorization by iodine explains some of the more obscure cases of infection in which bacteriologically the diagnosis was regarded as negative.

The authors' staining method is:

Carbol-gentian violet .....	1½ min.
Iodin-potassium iodide sol. ....	3 min.
Acetone alcohol (absolute alcohol ¾, acetone ¼) .....	1½ min.
Methyl orange dil. sol. ....	1½ min.
Dry with blotting paper.	
Carbol-methyl green-pyronin .....	1½ min.
Wash in water and dry.	

With this stain gonococci will appear red, iodine fast bacteria blue-black, cell nuclei greenish blue, oxyphile plasma of the neutrophilic leucocytes yellow, eosinophilic granules yellow, body of lymphocytes purple-red, body of epithelial cells red, mast cell nuclei violet-red or scarlet-red.

The carbol-gentian violet solution consists of saturated alcoholic solution gentian violet 10 c.c., 1% solution phenol 100 c.c.

The carbol-methyl green pyronin solution consists of methyl green 0.15, pyronin 0.5, alcohol 96% 5 c.c., glycerin 20 c.c., phenol solution 1% 75 c.c. Filter.

### Uranalysis.

#### Haeser and Haines Rule for Estimating Renal Insufficiency.

The total number of ounces of urine passed in 24 hours multiplied by the last two figures of its specific gravity plus 10% shows the number of grains of solids excreted by the kidneys in 24 hours.

Example:

$$48 \text{ oz. passed in 24 hrs. sp. gr. } 1.012.$$

$$48 \times 12 = 576 + 57 = 633 \text{ grs.}$$

This applies if the urine is free from albumin and sugar. If albumin is present precipitate by heat, then take sp. gr. and compare with tables.

#### TOTAL DAILY EXCRETION OF URINARY SOLIDS.

For healthy men—		For healthy women—	
Weight in pounds.	Total urinary solids in grs.	Weight in pounds.	Total urinary solids in grs.
40	392	90	500
50	479	95	535
60	563	100	570
70	639	110	605
80	716	115	640
90	789	120	675
100	854	125	710
110	916	130	745
120	974	135	780
130	1028	140	815
140	1078	145	850
150	1150	150	885
160	1198	155	920
170	1237	160	955
180	1260	165	990
190	1300	170	1025
200	1330	180	1060
		190	1100

Women exercise less, therefore excrete less. Correction for both sexes between 40-50 yrs. deduct 10%, between 50-60 yrs. 20%, between 60-70 yrs. 30% from above figures.

## Synopsis of Volhard's Method for Estimation of Chlorides in the Urine.

### Apparatus:

- 2 measuring cylinders 50 c.c.
- 1 burette, 10 c.c. and 5 c.c. pipettes.
- Funnel and filter paper.
- 100 c.c. flask.

### Solutions:

- N/10 Ag.NO<sub>3</sub>, 16,944 Ag.NO<sub>3</sub> in one litre.
- N/10 Potassium sulphocyanide 8 grains in 1 litre so that 1 c.c. Ag.NO<sub>3</sub> equals 1 c.c. KSCN.
- Saturated solution of iron ammonia alum.
- Nitric acid.

### Method:

Measure 5 c.c. urine (free from albumin) into 50 c.c. cylinder, add a few drops HNO<sub>3</sub>. Measure with pipette, 20 c.c. N/10 Ag.NO<sub>3</sub>. Mix and add water to make exactly 50 c.c. Filter into second cylinder exactly 25 c.c., transfer into a flask and add a few drops of iron ammonia alum. Rinse second cylinder with water and add contents of flask. Add cautiously the sulphocyanide till a lasting pink color appears. Take accurate reading of the sulphocyanide used.

### Calculation:

N/10 KSCN equals c.c. for c.c. to Ag.NO<sub>3</sub>.  
Multiply c.c. N/10 KSCN by 2, subtract from 20 c.c. N/10 Ag.NO<sub>3</sub>.

### Remainder:

X 0.002545 equals number of grams Cl. in 5 c.c. urine.  
X 0.00585 equals number of grams Na.Cl. in 5 c.c. urine.  
Divide by 5 (c.c. urine) equals % (grams in 100 c.c.).

### Observations:

The ratio of urea to Na.Cl. is about 2 to 1. Albumin may be removed by placing the faintly acid urine at boiling temperature till coarse flakes result. If urine is too dark, a drop of potassium permanganate will decolorize.

### Albuminuria in Primary Syphilis.

H. Carson Smyth, (*Dublin Journal of Medical Science*, November, 1915), in discussing his experiences with salvarsan in syphilis, notes that thirteen out of 122 patients showed albuminuria before treatment started, although there was no history or other clinical signs of nephritis. The writer attributes the albuminuria to the syphilitic infection, because the administration of salvarsan produced no ill effects, in three to five weeks the albuminuria disappeared and subsequently the urine remained normal.

### Bacteriology.

#### Vedder's Medium Gonococcus.

- Lean Beef ..... 500 gm.
- Water ..... 1000 c.c.

Soak for 24 hours, boil one-half hour, strain, add 1.75% agar, neutralize to 0.2 to 0.5% acid, phenolphthalein as indicator, add 1% cornstarch medium (cornstarch in cold water).

#### Chemical Aid in Securing the Spirocheta Pallida from Syphilitic Lesions.

Lloyd (*Boston Med. and Surg. Jour.*, December 16, 1915.) The method at the Massachusetts General Hospital for obtaining the spirocheta pallida from ulcerated specific lesions:

First carefully clean the lesion with water or salt solution, wash with 95% alcohol. This is only slightly painful. Then by lateral pressure a most abundant supply of serum, presumably from the deeper layers, is obtained. By the use of alcohol the per cent. of recoveries of the spirocheta has risen from 25% to 95%.

#### The Quick Detection of Spirocheta Pallida.

W. H. S. Stalkartt, of the Royal Navy in the *British Medical Journal*, gives this method:

Take a smear of blood and serum after cleaning, rubbing, scraping or incising the margin of the sore. If antiseptics have been used, dress for several days with a saline pack.

1. Fix in 1% glacial acetic acid and 8% formaldehyde solution. Rough dry the slide.

2. Wash in alcohol and flame off.

3. Gently heat in a 5% solution of tannic acid.

4. Wash in water and stain with slightly warmed ammoniated silver nitrate solution. (To a 5% solution of silver nitrate add ammonia solution until the precipitate first formed is just dissolved; add a few more drops of silver nitrate solution until the precipitate just reappears.)

5. Wash in distilled water and dry.



The films should be chestnut colored. If they have only become yellow the staining from the tannic acid onward should be repeated at once.

The slides must not be mounted in balsam, but examined in neutral cedar wood oil in the ordinary way. The spirochetes are very clearly demonstrated by this method.

#### Sero-Diagnosis of Syphilis with Chemical Substances (Coagulation Reaction).

V. Dungen (Münchener Med. Woch., No. 26, Sept. 7, 1915), has shown that syphilitic serum when diluted in water will, upon the addition of various substances and heating, undergo coagulation more easily than normal serum or sera from patients with other diseases. Surgical tuberculosis and carcinoma sometimes give the same reaction as syphilis. The best results were obtained in the differentiation between syphilis and other diseases with copper sulphate or indigo in alkaline reaction by the addition of a definite amount of Fehlings solution 11. The indigo method is:

One gram of indigo dissolved in 4 c.c. concentrated sulphuric acid and diluted with water to 100 c.c. This is used as a stock solution. For use 1.5 c.c. are mixed with 10 c.c. of water, and of this mixture 1 c.c. is mixed with 0.25 c.c. Fehling's solution 11. Of this mixture 0.2 c.c. is the reaction dose which is added to 0.3 c.c. serum. The serum is previously heated for one-half hour at 54° C. After the addition of the reaction dose the serum mixture is allowed to stand for one-half hour and then heated in boiling water for one minute. For boiling, very thin glass test tubes must be used so that the heat penetrates quickly to the serum. After boiling, the test tube is allowed to stand for two hours, after which the condition of the serum is noted. With a positive reaction the serum has become gelatinous; with a negative reaction it remains fluid.

Certain precautions are to be observed.

After the addition of Fehling's solution 11, the reagent should not be allowed to stand more than 15 minutes; it had best be used at once. All preparations of indigo are not equally soluble. If all the indigo does not dissolve in 4 c.c. of sulphuric acid the solution should be made with 7 c.c., in which case the reaction dose instead of being 2/10 c.c. should be 3/20 c.c. The indigo solution after the addition of the Fehling's solution should be of green color. If more than 0.3 c.c. of the Fehling's solution is added coagulation will take place less easily.

The investigations of this reaction clinically covered 250 cases compared with the Wassermann reaction. Control cases were run on six other diseases. The results coincide with the Wassermanns but as yet cannot be relied upon as absolutely specific.

#### A Rapid Method for the Quantative Determination of Albumin and Sugar in the Urine.

E. Lenk (Deut. Med. Woch., No. 43, 1915).

##### (a). Albumin.

Dilute the urine four times and fill an Esbach tube with it to the mark U; add Esbach's solution to the mark R and knife-point full of powdered pumice stone. Stop up the albuminometer with a cork and turn it upside down about ten times (do not shake). After ten minutes the sediment, which otherwise requires 24 hours standing, is complete.

##### Sugar.

To 10 c.c. of Fehling's solution add the urine to be examined and which has been warmed drop by drop. In order to bring out the reaction if sugar is present, more distinctly, add a drop from time to time of the following:

Potassium ferrocyanide .....	15
Acetic acid 1% sol. ....	125
Water .....	500

Allow to act for three minutes, after which the reaction is complete. As 10 c.c. of Fehling's solution require 0.05 gm. sugar for reduction the quantity of sugar present can be estimated from the amount of urine added to the solution.

#### A Stain for Tubercle Bacilli.

1. Three per cent. alcoholic solution of crystal violet.
2. One per cent. aqueous solution of ammonium carbonate.
3. Ten per cent. solution of nitric acid C. P.
4. Ninety-five per cent. alcohol.
5. Saturated alcoholic solution of Bismarck brown, of which enough is added to water to make a tincture of iodine color.

Technic: Make a smear and fix as usual. Mix one part of 1 with three parts of 2. Add to specimen and steam the slide three consecutive times. Pour off excess stain, wash in water, add 3 to decolorize. Rinse and follow with 4 till decolorized. Add 5 for three minutes. Dry.

The tubercle bacilli stain violet with a brown background. The stain works well with sputum, urine and tissues.

#### Alterations in Appearance and Chemic Changes

##### Produced in the Urine by the Entrance of Certain Drugs Into the System.

Rhubarb and senna color urine intense yellow; turns brilliant red upon addition of potassium hydrate, disappears on addition of an acid.

Santonin gives yellow color; turns rose red with potassium hydrate. Ether shaken with rhubarb and soda urine becomes yellow; with santonin urine it remains colorless.

Tannin in urine gives grayish green to blackish blue upon the addition of iron chlorid.

Urine containing balsam of copaiba on boiling and addition of hydrochloric acid, a distinct cloudiness which, unlike albumin precipitate, is dissolved by alcohol. Addition of hydrochloric acid colors the urine a beautiful red, which when heated assumes a violet hue.

The light to dark blood red urine occurring after free administration of antipyrin, and which not infrequently manifests dichorism, becomes a deep brownish-red on addition of dilute solution of iron chlorid.

After the administration of naphthalin the urine assumes a dark color. On addition of a few drops of ammonia a blue fluorescence is observed.

In the presence of salicylic acid in the urine the addition of iron chlorid first produces a yellowish precipitate of early phosphates and on further addition a bright-violet-blue coloration. If very small amounts are to be detected, acidulate with sulphuric acid add an equal volume of ether to the urine and extract the salicylic acid by shaking, the latter is taken up by the ether where it may be tested with the iron chlorid.

Carbolic gives to the urine a brownish green, and a still darker green on standing. Bromine water added produces a bright-yellow precipitate, in which after a time, glistening crystals in the form of needles and scales are found.

Potassium iodid, urine treated with a few drops of fuming nitric acid and about one-third its volume of chloroform gives a rose-violet color to the chloroform on shaking. A more delicate test is: Mix a few drops of starch paste with urine in a test tube then add fuming nitric acid. At the point of union, there occurs even in the presence of but 0.001% of iodine, a deep-blue ring.

Potassium bromide is detected by adding chlorin-water to the urine in order to liberate bromine, then shake with chloroform. This is colored dark yellow.—(Brooks Clin. Mic.)

62 Pierrepont St.

#### Leucocyte Counts During Digestion in Bottle-Fed Infants.

A. G. Mitchell concludes:

1. Bottle-fed babies do not constantly show digestive leucocytosis; in fact, the majority show a smaller number of leucocytes in the superficial blood after taking food than before.
2. This decrease is greatest at from one to two and a half hours after food, and tends to rise before the next feeding.
3. When a rise does occur, it is most frequently soon after feeding, and begins to decline in half an hour.
4. Crying, struggling and chilling of the part from which the blood is extracted increases the count.
5. There seems to be as yet no adequate explanation for the increase or decrease.
6. Comparative counts should be made at the same time of day, and at the same time in relation to food.—(Am. Jour. Dis. Child., May, 1915.)

### Politicians and the Medical Profession.

A politician, according to the Standard Dictionary, is "one who is engaged in politics; one who seeks to subserve the interests of a political party merely; especially one who uses politics for private advantage; a spoilsman; a political schemer." To this definition might also truthfully be added the words "an incubance on the body politic; a menace to American institutions; a dangerous and insufferable pest."

The American people have suffered from this intolerable nuisance since the early days of the republic. England is feeling the blight today more than ever, although the politician has long had his talons in the vital spots of the lion's anatomy.

Politicians are usually very ordinary men who become infected with the *bacillus pestifer politicianis*. As soon as these bacilli get into the circulation, the entire viewpoint and attitude of the person changes and his mental capacity markedly diminishes. He becomes self-opinionated, self-centered, in many instances develops megalomania and often certain hydrocephaloid tendencies are observed.

The confirmed politician shies at the medical profession as an unbroken colt will at a steam tractor. The physician is usually a guileless individual, suffering from an over-abundance of ethics, and is accustomed to doing a good deal for nothing. If he were to collect 60 per cent. of his accounts annually he would be stricken with cardiac palpitation. He was taught that his mission in the world is to do good (and incidentally he is done good) and he tries to carry out the precepts of his early teaching.

The politician simply cannot "see" the physician or his profession, for he cannot appreciate in the slightest degree the medical man's first principles. The idea of doing good to a man without thought of recompense is to him abhorrent in the extreme. When the politician sows his seed he reaps it at least one hundred fold, and if not, the man lower down hears from the man higher up.

The mission of the physician is to allay the suffering of mankind, despite attendant sacrifices. Consequently he is a poor appendage to a political machine. He cannot "deliver," so he is not a welcome member of the politician's gang.

When, therefore, the medical profession points out necessary reforms to political bodies, from the Congress of the United States down to town supervisors, the politicians listen to their advice and then do as they please, or as pleases their interests.

The best example of this is the attempt to concentrate all the governmental medical services and affiliated bodies in one department, to be known as the Department of Public Health, or by some similar title. This would permit the medical affairs of the federal government to be run economically and efficiently.

Economy and efficiency are words absolutely taboo in high political circles. They are against party interests and the interests of the "political interests" and of the individual politicians, so the federal health department is a thing for future generations to fight for.

To-day the United States is in a serious predicament. As a result of its allegedly neutral attitude, it has lost its friendly standing with all belligerents and with most of the few remaining neutrals. A comedian has well said that after the war the only friends the United States will have will be the Atlantic and Pacific Oceans. We wish to amend this by adding the North Pole, which is friendly to us, because one or maybe two Americans discovered it.

Trade considerations will make complications, and unless we are so strongly prepared that none will dare attack us, the United States is very likely to find itself at war within a few years. Universal peace is a delightful theory, but while peace advocates are restocking their dove cotes, they will awake, possibly too late, to the knowledge that we are confronted by cannon and high explosive facts instead of platitudinous and long winded theories. The brotherhood of man can prevail until the pocketbook of an envious neighbor nation is touched, and then it melts away before the legions of Mars. Most men, not too proud or craven to fight, realize what we have before us as a nation. Even some of the members of Congress appear to see the light, and at the time these words are written, seem disposed to add a very few thousand men to our present numerically, pitifully weak regular army.

The lessons of the world war have taught men that medical and surgical science is playing almost as important a part in the conflict as gunpowder, for soldiers must be kept in health and wounded men must be sent back to the firing line at the earliest possible moment.

If the United States is to be embroiled in a war, it is essential that the Medical Corps of the army be immeasurably strengthened and that to assist the regular surgeons, other qualified civilian surgeons be trained, so that the medical burlesque, lead by a horse doctor, acting as a brigade surgeon, in the Spanish-American war, will not be repeated.

To guard against such a fiasco, the Medical Reserve Corps was added to the army in 1908, and today it numbers over 1,500 physicians, ranking as first lieutenants, and comprising many of the best known medical men of the country.

As might be expected, the Congress has treated the Medical Reserve Corps as politicians are in the habit of treating physicians. For eight years the proper authorities have been trying to get a small appropriation to enable these surgeons to obtain at least a modicum of the training offered National Guard surgeons.

Congress has steadfastly declined to make such an appropriation. Indeed, it has not been possible for the medical inspector of the Department of the East to visit his posts for a considerable period, because there is no appropriation out of which to pay his traveling expenses. The reason for these anomalous conditions is that there is no "pork" and no "pap" attached to the Reserve Corps or to inspection of army posts. The responsible persons in Washington feel that if there are a lot of "fool" doctors in the United States who are sufficiently anxious to learn how to efficiently serve their country to pay their own expenses let them do it. Why should Congress appropriate real money for such purposes when some cross roads towns in Virginia, North Carolina or Texas need \$100,000 public buildings and when some creeks in Missouri, Illinois or Alabama must be dredged sufficiently to make some good swimming holes for the boys of the countryside.

Here is the recognition given the Reserve Corps by an admiring Congress.

Dr. Henry Clark Coe, professor of gynecology in New York University, who may be called the father of the Reserve Corps plan in this country, was ordered to active duty six or seven years ago with troops at Gettysburg for a few weeks. Then, in 1912, three Reserve Corps lieutenants were "invited" to be present at the Connecticut maneuvers, at their own expense. In 1913 about twenty-five of the inactive list were given a week of active service at the Union-Confederate encampment at Gettysburg, attending the old veterans



and *mirabile dictu*, they were actually paid for their services. After a long fight, Dr. Coe and Dr. Richard Slee, both of whom have hosts of influential friends in Washington, were able to obtain permission for some of the Reserve Corps officers to attend the camp for militia medical officers at Tobyhanna, Pa., in 1914. This was repeated in 1915. The only difference was that the militia officers were under pay from the moment they left their homes until they returned, while the Reserve Corps officers paid every cent of their expenses and lost their time from their practices in addition.

To cap the climax, despite the opposition of the Surgeon General and his associates, the bill now before the Congress contains a clause calling for the abolishment of the Medical Reserve Corps. In other words, at a time when trained physicians are likely to be desperately needed in the army, an attempt is being made by certain sinister influences to do away with an organization which is potentially great and which might be actually great if the minds of the politicians in Washington could be separated from their "pork" and their "fences" long enough to consider the situation.

The actual words in the act sounding the death knell of the long suffering Reserve Corps are:

"One year after the passage of this act the Medical Reserve Corps, as now constituted by law, shall cease to exist. Members thereof may be commissioned in the Officers' Reserve Corps, subject to the provisions of this act, or may be honorably discharged from the service."

We venture the humble opinion that the sad experiences the members of the Corps have had with the vacillating person who heads the responsible House Committee will lead the great majority of red-blooded men in the Corps to take their discharges.

The ignorance of this man and his associates of medical military matters is so overwhelming that the better class of men in the Medical Reserve Corps are disgusted beyond measure.

In a crisis like this the country has little to expect from its politician law-makers. It seems as if every briefless barrister, who possesses the gift of gab and a capacity to earn \$1,500 a year, by hook or crook, finds his way to Washington and thereby puts into his pocket at least \$6,000 a year more than he could earn in his own community.

We are suffering from a glut of undigested laws. We have enough on our statute books now that if intelligently and honestly enforced would last the country for a generation.

If we could utilize our fleet to transport every self-serving politician-law maker of every degree to some uncharted island in a far away sea and could be certain that the latitude and longitude would be forever lost, the country would prosper and blossom like the green bay tree. The republic needs a political Moses to lead the people out of the politician-made wilderness into a land governed as private business enterprises are managed, honestly and efficiently, which would be indeed a land flowing with milk and honey.

#### The Tin Can a Menace.

Who would have thought that the tin can is a menace to the public health? The expert malaria investigators of the United States Public Health Service have found, however, that discarded tin cans containing rain water are breeding places for the mosquito, which is the sole agent in spreading malaria. A hole in the bottom of the empty can might have resulted in the saving of a human life. Certainly it would have assisted in preventing a debilitating illness. Empty tin cans have no business about the premises, anyway, but if we must so decorate our back yards, let's see to it that the can has a hole in the bottom.

## Special Article

### Prolonged Fasting in Diabetes.

From present indications diabetes has found its master in prolonged fasting. F. M. Allen, of the Rockefeller Institute, New York, originally promulgated this doctrine and many other clinicians have corroborated his ideas. In his original publication<sup>1</sup>.

Allen related his experiments upon animals and observed that while in mild cases restriction of carbohydrate or protein and brief fasting sufficed to keep the animal sugar-free and in good condition indefinitely, the severer forms necessitated a fast of weeks, with a subsequent diet which would keep the animal at a low level of weight and metabolism.

He found the prevention of glycosuria of absolute necessity and that even in the severest cases it may be cleared up by the initial fast, which may be as long as ten days. He observes that severe acidosis is still more reduced by the more prolonged fasting. Dangerously weak and emaciated patients have borne the fasting with apparent benefit, giving the impression that they had been suffering more from intoxication than from lack of nutrition. Alcohol is valuable during fasting as a food which does not produce glycosuria, though its use is not essential. Broadly speaking, freedom from glycosuria seems attainable in all cases of uncomplicated human diabetes before there is danger of death from starvation. In a few cases seen personally or described by others, death from some severe complications has occurred before the urine became sugar-free. In such cases to date the complication has been a severe infection, or some condition strongly tending to increase metabolism or produce nervous or circulatory disturbance. The fasting has not appeared harmful even in these few cases where it has not been successful. One case of incipient gangrene and one dangerous carbuncle cleared up rapidly under fasting, and threatening complications of infectious or any other character are considered an indication for the radical treatment as described. No contraindication has been met, unless it be the appearance of nausea, vomiting, and prostration while fasting. One man began to vomit and feel ill on the seventh day of fasting. He was fed and the symptoms immediately passed off. After two weeks of restricted diet a second fast easily cleared up the glycosuria.

Though the initial fast, to clear up glycosuria and other symptoms, is generally a very simple matter, the subsequent diet, to maintain this condition, is sometimes difficult. It is unquestionably true, that when glycosuria is abolished and strength diminished by long fasting, and then glycosuria and acidosis allowed to return through improper diet, the last state of that man may be worse than the first. After the fasting patient has been completely sugar-free for one or two days, Allen ascertains the tolerance of the patient for carbohydrate, protein, and fat is determined. The diet is governed by the amount of each food that can be given in each individual case while keeping the urine clear. Under this program even weak and emaciated patients have been subjected to under-nutrition in both protein and calories for weeks or months continuously, with ultimate benefit. Any trace of glycosuria is the signal for a fast-day with subsequent modification of diet, and routine fast-days are often used as frequently as once a week even in absence of glycosuria. Allen directs especial attention to the benefit of keeping the patient

<sup>1</sup>Am. Jour. Med. Sciences, No. 4, vol. cl.

permanently below weight, and the advisability of restricting the quantity of fat in the diet. Naunyn tried to maintain these patients at the highest possible level of weight and nutrition, with the idea of helping them to withstand a wasting disease. Allen's idea is contrary to this. He thinks the reduction of weight is in itself beneficial to the diabetic condition and serves to spare the weakened function and increase tolerance. Sometimes a slight reduction of weight suffices even for a severe case. Again, a well-nourished patient, easily kept free from glycosuria, was reduced by twenty kilograms because of a slight stubborn ketonuria and a persistently high blood-sugar. Most patients are able to regain weight to a greater or less extent, but few severe ones are able to return fully to normal weight. Any increase that is possible without return of symptoms is permitted. Any gain that brings back glycosuria or ketonuria is checked.

In the treatment of diabetes heretofore, fat has been freely given and even forced upon the patient. It has been restricted only in certain cases with high acidosis and danger of coma. In a suitably severe diabetic who is symptom-free for days or weeks on a fixed diet, the addition of some quantity of butter or olive oil to the diet will bring back the glycosuria, ketonuria, and other symptoms immediately or within a short time. The feeding of fat alone does not cause glycosuria, and there is no proof that the sugar is formed from the fat; more probably the sugar excretion results from the stimulating effect of fat upon metabolism. The overtaxing of the patient's metabolism by giving fat beyond the limit of tolerance may be an additional explanation of the failure to keep certain patients free from glycosuria and ketonuria under former methods of treatment. The main features wherein the Allen treatment differs from the previously established methods are, first, an initial fast sufficient to clear up glycosuria in any case and then one or two days longer; second, a subsequent diet such as to keep glycosuria and acidosis permanently absent, with as many interspersed fast-days as necessary for this purpose. The third and fourth features represent differences not in degree but in kind, and are diametrically opposed to the prevalent teachings; that is, the third opposes the idea that the diabetic should be kept at the highest possible level of weight and strength, and that gain in weight is synonymous with improvement; and it substitutes for this the plan of keeping most severe diabetics intentionally and permanently at a sufficiently low level of weight and metabolism, in the belief that return of symptoms and downward progress is thus prevented. The fourth feature stands opposed to the doctrines that fat feeding does not appreciably influence diabetic glycosuria, and that calories lost in the urine should be replaced by additional calories in the diet, preferably in the form of fat. It opposes to these the observation that addition of fat to a fixed diet suffices to bring back both glycosuria and ketonuria in most severe diabetics, and the principle that the patient's tolerance for fat and calories should be followed in the same way as the tolerance for carbohydrate and portein. The fifth feature consists merely of routine or incidental matters, which are not without practical importance. Among these may be mentioned (1) the diet such as not to overtax tolerance and yet satisfy the patient sufficiently that he will follow it continuously at home; (2) the absence of any specific craving for carbohydrate such as diabetics are supposed to manifest, and the contradiction of the prevalent idea that most severe diabetics cannot be trusted; (3) the avoidance of the need of alkali for more than a few days, and therewith relief

from disturbances due either to acidosis on the one hand or to prolonged large doses of soda on the other; (4) the principle of clearing up the urine quickly and devoting the greater part of the stay in hospital to educating the patient, rather than devoting the greater part of the stay in hospital to clearing up the urine and dismissing the patient shortly thereafter; (5) instruction of the patient in the simple means of controlling his own condition, through his diet, his body weight, and the daily testing of his own urine with Benedict's solution.

The immediate results as observed by Allen and other careful clinicians agree that the results under the new method are more favorable. Also the relative simplicity of the proposed method, and the fact that it stops glycosuria without running any risk of acidosis, makes it available for a large body of general practitioners who have heretofore not felt safe in withdrawing carbohydrate or attempting to stop glycosuria in cases with any marked ketonuria. Patients also generally accept radical treatment with quick decisive results more readily than the weeks or months of privation heretofore used in stopping glycosuria, and the quick relief from polyphagia, polydipsia, and other symptoms aids further in securing their co-operation. Whatever the ultimate outcome, Allen presents two conclusions: (1) that this treatment removes glycosuria and acidosis more quickly and surely than has been the practice heretofore, and (2) that patients do better when glycosuria and acidosis are removed than when they are allowed to continue.

Elliott P. Joslin, of Boston, in a comprehensive review of the Allen treatment of diabetes<sup>2</sup> says he is convinced, that prolonged fasting produces the best results he has observed. In one year he saw 211 cases (75 old and 136 new). Of that number 13 died, a mortality of 14.7%. Of the 211 cases, 55 fasted and 6 died, a mortality of 10.9%. He believes the advantages of the new treatment are many. It has made attainable the ideals of treatment—namely, a sugar-free and acid-free urine. The standards of the success of treatment are so simple that they are within reach of the patient. He is delivered from medicines, sham kinds of treatment, gluten breads, and in 99 cases out of 100 of alkalis. He can now test all measures for himself.

The hospital stay is not particularly shortened, except indirectly by the avoidance of complications, because the patient requires a more thorough education in the diet. It does simplify general hospital treatment, because as soon as a diabetic patient in an open ward shows sugar, it will generally mean that he has broken his diet, for which the automatic penalty is a fast until sugar-free. Unquestionably complications will become less frequent, and it is possible that arteriosclerosis will less commonly occur in the long standing cases as a result of the restricted diet.

Joslin's method showed that five days was the limit of time necessary for any patient to become sugar-free and that some attained this end after fasting for three or four meals. On a diet chart the following is printed:

**Fasting.** Fast until sugar-free. Drink water freely and one cup tea and one cup coffee if desired. If sugar persists after two days of fasting, add in divided portions 300 c.c. clear meat broth.

**Alcohol.** If acidosis (diabetic acid) is present, take 0.5 c.c. alcohol per kilogram body weight daily until acidosis disappears. Alcohol is best given in small doses every three hours.

<sup>2</sup>*Am. Jour. Med. Sciences*, No. 4, vol. cl.



**Carbohydrate Tolerance.** When the twenty-four hour urine is sugar-free, add 150 grams of 5% vegetables, and continue to add 5 grams carbohydrate daily up to 20 grams, and then 5 grams every other day, passing successively upward through the 5, 10 and 15% vegetables, 5 and 10% fruits, potato and oatmeal to bread, unless sugar appears or the tolerance reaches 3 grams carbohydrate per kilogram body weight.

**Protein Tolerance.** When the urine has been sugar-free for two days, add 20 grams protein (three eggs) and thereafter 15 grams protein daily in the form of meat until the patient is receiving 1 gram protein per kilogram body weight, or if the carbohydrate tolerance is zero, only  $\frac{3}{4}$  gram per kilogram body weight. Later, if desired, the protein may be raised to 1.5 gram per kilogram body weight.

**Fat Tolerance.** While testing the protein tolerance, a small quantity of fat is included in the eggs and meat given. Add no more fat until the protein reaches 1 gram per kilogram (unless the protein tolerance is below this figure), but then add 25 grams fat daily until the patient ceases to lose weight or receives not over 40 calories per kilogram body weight.

**Reappearance of Sugar.** The return of sugar demands fasting for twenty-four hours or until sugar-free. The diet preceding the reappearance of sugar is then resumed except that the carbohydrate should not exceed half the former tolerance until the urine has been sugar-free for two weeks, and it should not then be increased more than 5 grams per week.

#### VEGETABLES

5 per cent.	10 per cent.	15 per cent.	20 per cent.
Lettuce	Cauliflower	Onions	Green peas
Spinach	Tomatoes	Squash	Artichokes
Sauerkraut	Rhubarb	Turnip	Parsnips
String beans	Egg plant	Carrots	Canned
Celery	Leeks	Okra	lima beans
Asparagus	Beet greens	Mushrooms	Boiled rice
Cucumbers	Water cress	Beets	Boiled macaroni
Brussels sprouts	Radishes		
Sorrel	Pumpkin		
Endive	Kohl-rabi		
Dandelions	Broccoli		
Swiss chard	Vegetable marrow		
Sea kale			

#### FRUITS

Ripe olives (20 per cent. fat)	Lemons	Apples	Plums
Grape fruit	Oranges	Pears	Bananas
	Cranberries	Apricots	
	Strawberries	Blueberries	
	Blackberries	Cherries	
	Gooseberries	Currants	
	Peaches	Raspberries	
	Pineapple	Huckleberries	
	Watermelon		

#### NUTS

Butternuts	Brazil nuts	Almonds	Peanuts
Pignolias	Black walnuts	Walnuts, English	
	Hickory	Beechnuts	
	Pecans	Pistachios	40 per cent. Chestnuts
	Filberts	Pinenuts	

#### MISCELLANEOUS

Reckon actually available carbohydrates in Unsweetened and unspiced vegetables of 5 per cent. group, as 3 per cent., pickles, clams, oysters, of 10 per cent. group as 6 per cent., scallops, liver, fish roe.

30 grams, or 1 ounce, of each of

A patient "at rest" requires 25 to 30 calories per kilogram body weight. The following contain approxi- Protein, Fat, Carbohydrates, mately:

	grams.	grams.	grams.	Calories.
Oatmeal, dry weight.....	5	2	20	110
Meat (uncooked).....	5	2	0	40
Meat (cooked).....	8	3	0	60
Broth.....	0.7	0	0	3
Potato.....	1	0	6	30
Bacon (cooked).....	5	15	0	155
Cream, 40 per cent.....	1	12	1	120
Cream, 20 per cent.....	1	6	1	60
Milk.....	1	1	2	20
Bread.....	3	0	18	90
Butter.....	0	25	0	240
Egg (one).....	6	5	0	75
Brazil nuts.....	5	20	2	210
Orange (one).....	0	0	10	40
Grape fruit (one).....	0	0	10	40
Vegetables, 5-10 per cent. groups.	0.5	0	1	6
1 gram protein, 4 calories.		1 gram carbohydrates, 4 calories		
1 gram fat, 9 calories.		1 gram alcohol, 7 calories.		
6.25 grams protein contain 1 gram nitrogen.		1 kilogram = 2.2 pounds.		

30 grams (g) or cubic centimeters (c.c.) = 1 ounce.

**Weekly Fast Days.** Whenever the tolerance is less than 20 grams carbohydrate, fasting should be prac-

tised one day in seven; when the tolerance is between 20 and 50 grams carbohydrate, 5% vegetables and one-half the usual quantity of protein and fat are allowed upon the fast day; when the tolerance is between 50 and 100 grams carbohydrate, the 10% and 15% vegetables are added as well. If the tolerance is more than 100 grams carbohydrate, upon the weekly fast day the carbohydrate should be halved.

Bread is seldom prescribed, because it is so easy for a patient to overstep the limits. Many patients use bread substitutes. The quantity of fat which it is necessary to give a severe case is considerable. A diabetic weighing 60 kilograms requires at least 30 calories per kilogram body weight to be up and about the hospital, with an occasional walk. Since in the severe cases not more than 10 grams carbohydrate, representing 40 calories, can be given in this form, and seldom more than 75 grams protein (1.25 grams per kilogram body weight) which would amount to 300 calories more, the balance of the diet must be made up of 150 grams fat, amounting to 1350 calories, and even more unless 15 grams alcohol are given, which would amount to 105 calories.

Joslin shows in this table the quantity of food required by a severe diabetic patient weighing 60 kilograms.

Food.	Quantity grams.	Calories per gram.	Total calories.
Carbohydrate.....	10	4	= 40
Protein.....	75	4	= 300
Fat.....	150	9	= 1350
Alcohol.....	15	7	= 105
Total.....			= 1795

The quantity of fat (150 grams to 160 grams) is easily given in the form of 120 c.c. of 40% cream (48 grams), 15 grams of oil (15 grams) and 3 eggs (15 grams), bacon (cooked) 30 grams (15 grams), meat (cooked), 100 grams (5 grams), and butter 60 grams (50 grams). These figures are only approximately correct.

Should the patient remain sugar-free and the weight be maintained upon this diet, gradually the quantity of fat could be lowered and the carbohydrate increased. A very few of Joslin's patients have a tolerance for between 200 and 300 grams of carbohydrate. With most, the tolerance is below 100 grams, and with the majority it is under 50 grams.

The patient should have one day of restricted diet each week, no matter how mild the case. This is done partly to spare the function which controls the carbohydrate metabolism, but also to remind the patient of what a strict diet really is. The patient is told to gain little or no weight, and not to come up to his former weight. The severer cases examine the urine daily, and the milder ones once a week. The patients are instructed to lead less strenuous lives. Joslin says the after-treatment of diabetic patients is quite as important as the initial treatment. Patients must learn to keep sugar-free and maintain weight, and when difficulties occur report for advice.

As to exercise Allen reports<sup>2</sup> exercise as an addition to treatment. Just how early the exercise is begun may vary with individual patients. It seems possible that the stronger patients may shorten their initial fast by this means if desired. As soon as the first few days of treatment have markedly reduced glycosuria and ketonuria, the dangers previously feared from over-exertion are apparently removed. In suitable cases the blood-sugar may be found to fall rapidly during a half-hour or hour of lively exercise. In a patient free from glycosuria with persistent hyper-glycemia, one fast-day with exercise may reduce the blood-sugar as much as

<sup>2</sup>Boston Med. & Surg. Jour., No. 20, Vol. clxxiii.

several fast-days without exercise. If glycosuria is produced in a patient by adding either carbohydrate, protein, or fat to the diet, it is frequently possible to abolish this glycosuria by exercise while continuing the increased diet.

It seems advantageous to give exercise especially after a meal containing carbohydrate or other food tending to produce glycosuria, although, when patients are able, they exercise at all times of the day. At present, short periods of vigorous exercise with rests between are preferred to long slow walks, which might tire the patient even more. The exercises now suggested are running up and down stairs, jumping rope, throwing a heavy "medicine ball," and turning somersaults. Tennis and other hard games should probably be beneficial. At first, precautions may be taken against the nervousness and sleeplessness sometimes caused by over-weariness in weak patients. Otherwise, patients are worked right up to the limit of their strength, somewhat like athletes in training. It is desirable to reduce fat and reserve tissues, and build up active muscular tissue, so the emaciated, flabby-muscle diabetic is turned into an athlete as far as practicable. The patients feel much better; they are kept occupied during the day, and sleep well at night. Hunger may be partly satisfied by vegetables and bran cakes, but in general exercise has increased appetite less than it has increased the power to satisfy appetite. The patients can take a somewhat more liberal diet, and enjoy the possession of somewhat greater weight and strength. Everything goes to show that the researches of Allen have opened up a new era in the treatment of diabetes and that the disease will no longer be the *bête noir* of the practitioner.

## Surgery

### Removal of a Bullet from the Right Ventricle of the Heart Under Local Anaesthesia.

Lieutenants Birkbeck and Lorimer and Col. Gray of the British expeditionary force in France report the case of a private who was admitted to a general hospital on July 19, 1915, having been wounded eight days previously. The bullet had passed through and killed a man in front of him. There was a small dirty wound ( $\frac{1}{2}$  in. diameter) below and to the right of the xiphi-sternal junction. The heart appeared to be normal and regular. The pulse varied between 80 and 90. The evening temperatures rose to  $100^{\circ}$  to  $101^{\circ}$  F.

The x-ray report showed an object in, or close to, the lowest portion of the wall of the right ventricle. Its shape and size, so far as could be made out, were those of a rifle bullet. Attempts to take radiograms were unsuccessful.

Col. Gray saw the patient on July 25, and again on July 26, on which day a sharp pain developed suddenly in the left leg. As the pulse during the night of July 26 had shown some irregularity, rate 65 to 95, and the heart had occasionally dropped beats, an operation was decided on and performed on the morning of July 27. Veronal, gr. v, was given on the evening before, and three doses of morphin, amounting in all to  $5\frac{1}{6}$  gr., during the morning before operation. The patient was not unduly under the influence of morphin.

Under local anaesthesia Col. Gray made a wide horse-shoe-shaped incision, convexity upwards, extending along the sixth costal cartilage on each side and across the sternum at the level of the attachment of the fifth cartilage. This incision was used so as to make an exposure of the track of the bullet in the depth. The peri-

chondrium was separated from the left sixth cartilage, which was cut across at the costo-chondral junction and used as a lever to elevate the sternum while the triangularis sterni, pericardium, etc., were being separated off the posterior aspect of the flap. A small portion of the right sixth rib was removed close to the costo-chondral junction. The sternum, at the lower border of the fifth costal cartilages, was grooved deeply with a gouge and divided with bone forceps. The soft parts were then separated from the sternum and ribs so that the flap could be turned downwards and forwards. When the flap was pulled forwards a hole about an inch long appeared in the pleura on the right side, in the track of the bullet. The right lung collapsed. The respirations became labored and quick, the patient coughed and complained that he was breathless. He settled down in about one minute, after being reassured by the surgeon. Except for this disturbance there was apparently no discomfort during the entire operation.

The flap was held forward by hooks, and the pericardium opened obliquely from the base to near the apex of the heart. About a drachm of slightly bloodstained fluid was noticed in the pericardial cavity. The heart looked normal. No wound could be seen. On digital exploration the bullet was felt to be lying, apparently fixed, at the back of the heart, either in the wall or cavity of the right ventricle. The point of the bullet was near the apex of the ventricle. During the manipulations the heart was noticed to miss a beat occasionally—when touched at the upper and back part of the interventricular septum.

The right ventricle was seized with a pair of catch forceps near the apex. When it was seen that this caused no disturbance a suture was passed through the muscle adjacent, and by these the heart was held forward. This in no way agitated the patient. On further exploration the bullet was definitely located by probing with a needle, and was thought to be fixed in the right ventricle near the posterior coronary vessels. After manipulation, the bullet was felt to change position and to be free inside the ventricle. It was worked away as far as possible from the coronary vessels and grasped between the thumb and finger. Two stitches were inserted into the muscle wall over the bullet. The wall of the ventricle was incised for half an inch, and the bullet removed with forceps. While the wall of the ventricle was still being held firmly between the finger and thumb the stitches were tied.

On removing the catch forceps there was brisk bleeding, which was stopped quickly by an under-running stitch. The pericardial cavity was wiped free of blood-clot and was filled with normal saline to expel the air; it was then sewn up. The right pleural cavity was next filled with saline and the injured pleura sewn up.

The patient was very comfortable on being taken back to bed, but about four hours after the operation the respirations rose suddenly to 48 a minute, and remained at about that level till he died, except for part of the day of July 29 and 30, when the patient being deeply under the influence of morphin, they dropped to 28 a minute.

He was much troubled after this occurred by mucus collecting in large quantity in the throat and the upper part of the trachea.

On July 29 his mind began to wander, and he was often delirious until his death on July 31.

There was never any indication that the operation on the heart had interfered with its action, which, though quick (average 120 to 130), was wonderfully strong up to within a few hours of his death. No dropping of beats was noticed after the operation.



At the *post-mortem* examination it was found that the external wound had healed well; there was no sign of any inflammation. There was no fluid exudation of either blood or pus in the pericardial cavity, but the heart was covered by a shaggy layer of lymph about one-sixth of an inch thick. The wounds in the heart had healed perfectly.

There were several shreddy, *ante-mortem* clots entangled in the chordae tendineae of the right ventricle and a long narrow clot in the pulmonary artery extending into its right branch, besides the usual *post-mortem* clotting. There was an abrasion of the endocardium of the posterior wall of the right ventricle where the bullet had been lying, but the cavity looked normal otherwise. No wound of entrance was discovered.

There were several small clots in the branches of the pulmonary arteries with corresponding infarct areas in the lungs. The right lung had expanded to about two-thirds the size of the left. There were about two pints of blood-stained serous fluid in the right pleural cavity.

The cause of death was judged to be multiple pulmonary infarction from clots derived from the right ventricle.—(*Brit. Med. Jour.* Oct. 16, 1915.)

#### Arterio-sclerosis of the Intestine.

J. A. Hedlund records the case of a workman, 61, who had been subject for some years to attack of abdominal pain, which bore no relation to meals. On July 28 he had a severe attack of pain and constipation, which passed off when an aperient was given. But the symptoms recurred on August 3, when they were accompanied by vomiting. Frequent enemas afforded some relief, but in the afternoon of August 4 the pain again became severe, and there was complete retention of feces and flatus. An examination on August 5 showed diffuse abdominal rigidity and peristaltic movements of the intestine below the umbilicus. An examination with the sigmoidoscope was negative, the liver dullness was normal, and there was only slight hypertrophy of the heart. The pulse was 62, and the radial arteries were somewhat rigid. At long intervals the horizontal outline of a section of the intestine could be detected through the abdominal wall below the umbilicus.

A laparotomy, performed on August 6, showed the surfaces of the ileum and large intestine to be of a greyish-white color, thickened and rigid. The ileum was at some points compressed or deformed by adhesions, but these did not actually occlude the intestine. The lower part of the ileum was resected for a length of about 4½ feet, and a termino-lateral anastomosis was made between the ileum and the upper part of the sigmoid flexure. The rigid and distended large intestine, thus short-circuited, was tapped at three points, and some gas and feces were withdrawn. The patient died next day.

At the necropsy slight calcareous changes were found in the aorta, the pulmonary artery, and the mitral valve. There were only slight sclerotic and atheromatous changes in the aorta, and the coronary arteries were practically unaffected. The jejunum looked normal except for a few small greyish-white spots scattered over its surface. The large vessels of the mesentery were not microscopically arterio-sclerotic, but as the vessels were traced towards the intestine they were found to be more and more rigid. In the subserosa, which looked milky white, and consisted largely of fibrous tissue undergoing hyaline changes in many places, the blood vessels were much calcified, and at some points their lumen was completely obliterated. The muscular walls of the intestine were hypertrophied as well as infiltrated with fibrous tissue. The mucosa was atrophied, and the sub-

mucosa was in some places completely fibrous. The author thinks the intestinal obstruction was due to lack of peristaltic movements in the rigid sections of the intestine. A similar case was reported by Ortnier in 1903, and another by Warburg in 1905.—(*Hygiea*, No. 9, 1915.)

#### Typhoid Fever With Suppurating Ovarian Cyst.

H. G. C. Mold reports a case of a woman aged 22 years, unmarried, admitted into hospital on May 12, 1915, with a preliminary diagnosis of typhoid fever.

She had not had any illness up to four months previously, when she had a cough and was "feverish"; since then she had had amenorrhea. In January, 1915, she was inoculated once against typhoid fever. Shortly afterwards she was wounded in the left shoulder by shrapnel, but the wound healed quickly.

The illness for which she was admitted had begun four weeks previously with diarrhea and abdominal pain. She was feverish and was bleeding from the nose, but had no headache. When she was admitted she was well nourished, but looked flushed and feverish; the temperature was 100.8 deg. F. and the pulse 120. Her tongue was coated with a thick white fur, but was moist. The abdomen looked full, and was very tender and rigid, especially so in the right iliac fossa. On palpation a large, firm, smooth swelling was felt extending from above the symphysis pubis to the umbilicus; it was almost central, but was inclined slightly to the right. The swelling was dull upon percussion, and there was no fluctuation. A catheter was passed; only two ounces of highly-colored urine were withdrawn, and the swelling persisted.

Upon vaginal examination the cervix was found to be pushed far over to the left side, and the uterus was behind the tumor and to the left of it. The tumor appeared to be distinctly to the right of the middle line, and was very tense. A blood culture proved to be negative.

The patient's condition remained much the same, with fever and a rapid pulse, until May 16, when the temperature rose to 102.2 deg. F., and she started vomiting. On May 17 laparotomy was performed under ether given by the open method. A large unilocular ovarian cyst was found; this originated from the left ovary, and its pedicle formed a continuation of the left broad ligament. There were some adhesions to the pelvic wall. The cyst was removed, leaving the ovary behind.

The cyst contained about two pints of a grumous semi-purulent fluid, from which the *Bacillus typhosus* of Eberth was obtained in pure culture.

At 7 p. m. the patient was very feeble; the pulse was 140, and the temperature 100.8 deg. F. A pint of saline solution was given by the rectum, and a hypodermic injection of digitalin 1/100 grain and strychnin 1/60 grain was given every four hours. She had a fair night, without much pain, and on May 18 was better, the temperature being 98.6 deg. and the pulse 120. There was no vomiting. A slight hemorrhagic vaginal discharge was noticed, and persisted for two days.

She made a rapid and uneventful recovery.—(*Brit. Med. Jour.*, Aug. 28, 1915.)

#### Emphysematous Gangrene of the Neck.

At the Académie de Médecine de Paris on Sept. 7, Paul Guéniot reported two cases of emphysematous gangrene. Guéniot discovered a test by which it may be distinguished, before there is any discoloration of the skin, from subcutaneous emphysema due to wounds of the air passages, which often occurs in the neck. While laying open with the thermocautery the affected

parts he found that in emphysematous gangrene the gas is usually inflammable (it proved so seven times out of eight). The flame produced was momentary and did not injure the tissues. In one case a soldier, wounded on August 19, showed on the 23rd gaseous infiltration on the left side of the neck in front, but the wound was on the right side, a little anterior to the angle of the jaw, which was fractured. Radioscopy showed a bullet and its sheath separated from one another in the left supraclavicular fossa at a depth of  $3\frac{1}{2}$  cm. An incision was made and the bullet extracted. The bullet wound was opened with the thermo-cautery and inflammable gas was found. Multiple incisions were made with the cautery over the whole of the left side of the neck, extending even beyond the middle line, and inflammable gas was found in the wounds. Splinters were removed from the inferior maxilla. The bottom of the wound made for extraction of the bullet and the wound of entry of the latter were touched lightly with the cautery. The wounds were washed out with solution of hydrogen peroxide and then with ether and an ether dressing was applied. In the afternoon crepitation was found on the right side of the neck and the thermo-cautery was applied there. On the following day the disease was found arrested and at the time of the report recovery was almost complete. Guéniot considered that multiple *débridements* with the thermo-cautery in the whole of the emphysematous area repeated in the new areas invaded, if there is a tendency to extension, on the same day, on the following day, and on the day after that often arrest the disease. Twice he has followed the emphysema with the cautery above the crural arch to the abdominal wall, in one case up to the umbilicus and in the other to the costal border. In the first case he followed up the emphysema for the three consecutive days as it extended and on the fourth day the gangrene was definitely arrested.—(*Lancet*, Oct. 16, 1915.)

#### Intestinal Obstruction by Gall-stone in Man of 78.

Baildon was called to see a man 78, suffering from symptoms of acute intestinal obstruction. The patient was watched for forty-eight hours and then laparotomy was performed. A large hard lump was felt in the small intestine. The loop containing it was isolated and an incision made, thus setting free a gall-stone 2 inches long and  $5\frac{1}{2}$  inches round the greatest circumference. The bowel was closed by Lembert sutures, and the abdominal wound stitched up with silk-worm-gut. During the night the patient was very restless and inserted his fingers into the wound, which, in consequence, was badly infected, and ultimately gaped until bowel was exposed at the bottom. Despite this he eventually recovered completely, and with a fair abdominal scar.

The author is of opinion that such a gall-stone could not have been passed along the bile-ducts, but must have ulcerated through gall-bladder into intestine, the track being meanwhile completely guarded by adhesions.—(*Liverpool Med. Ch. Jour.* No. 7, 1915.)

#### Anthrax in the Shaving Brush.

A somewhat disturbing account of some cases of anthrax in man traceable to infected shaving brushes is given. Suspicion fell upon a shaving brush in the first instance because at the post-mortem examination it was noted that the small local lesion came well within the individual's shaving area, which covered a larger ground than usual. The clue was followed up and the brush was bacteriologically examined, with the result that it could be definitely stated that it was infected with anthrax. Further inquiry showed that other shaving brushes were grossly infected. Subsequent experiments showed that the infection could be removed to a large extent by thorough washing, but this process would not appear to give absolute security. (*Lancet*, Jan. 1, 1916.)

## Correspondence

### Cancer Research.

To the Editor of THE MEDICAL TIMES:

Having read your interesting article on the etiological investigation of carcinoma in the February issue of THE MEDICAL TIMES, by Dr. H. W. Howell, permit us to add that we have conducted similar investigations with a less tedious and an original method based on numerous experiments made with different carcinomatous excretions from patients afflicted with the disease in its various stages and forms.

The urine we found to be the most suitable excreta with which to diagnose early cancer and sarcoma. (*Vide New York Post Graduate*, August, 1914, and *American Medicine*, August, 1915.)

If urine is subjected to low temperatures, from 0 to +6° C., there will form a massive precipitate. This precipitate will be found in normal as well as pathological specimens, but there will be a difference in the quantity and quality, according to the nature of the urine examined. An abnormally large quantity of red urates shows, always, as a predominant feature when the urine is from a cancerous patient.

In freshly voided urine from patients suffering from malignant disease, which showed the malignancy test according to Walker-Klein method, when subjected to low temperature, 4-6° C., the clear filtrate failed to give the reaction, thus indicating that the chemical constituent of the urine necessary to the Walker-Klein malignancy test was precipitated by cold, and no longer was to be found in the clear filtrate. If, however, the precipitate was dissolved by moderate radiated heat, the urine containing the redissolved precipitate would again show the test above referred to.

The precipitate thus formed by low temperature, 4-6° C., was then subjected to the following examination: The precipitate was redissolved at different temperatures, using direct or radiating heat to prevent decomposition and to prevent chemical changes taking place in the precipitate. No direct flame was used for heating, only the water bath with the temperature between 40 and 90° to redissolve the above formed precipitates.

The precipitate was not allowed to reform at a low room temperature (say possibly 10 to 15° C.) and was then subjected to various tests and was found to contain the fibrin split products and toxins mentioned in previous articles as producing carcinoma.

If the urine containing the precipitate was heated on the water bath to 65° C. or more, the malignancy test again failed to show itself. This would confirm the statements made by Percy and others that the cancer cells and cancer toxins are destroyed by temperatures between 45° and 55° C. The precipitates for further examination were obtained by radiated heat (and by radiated heat we mean that no direct heat from the water bath, or any direct heat was used). This precipitate was allowed to form in the room at a temperature from 0 to 4°, and then redissolved, using no heat above 25 to 30° C. (that is, simply the warm temperature of the room).

The precipitates were now further treated with a very dilute solution of hydrochloric acid (1.0058 sp. gr.). This acid readily dissolved the precipitate, leaving the red urates undissolved except when the mixture was heated. These red urates would again precipitate if the acid solution was allowed to cool. Four portions of the acid were needed on the average to completely dissolve the precipitate. In each portion approximately 8 to 10 cc. of the above mentioned hydrochloric acid were used. The first showed slightly pinkish tinge and indicated the strong odor of decomposed fibrin split products and fatty acids. The second portion had a canary yellow tinge and no odor. The third portion showed less color than number two, but the same yellow tinge and no odor. To the fourth portion when boiling hydrochloric acid was added and it resembled No. 2 in color, no odor, but showed a slight precipitate of insoluble red urates.

In conclusion, we would state that our investigation has taught us that:

First:—The urine excreta will demonstrate or manifest the disease as well as the prepared tumor tissues have done for Dr. Nowell.

Second:—That the precipitate formed in urine at a low temperature of 4° C. itself contained the active cancer toxins.

Third:—That a comparatively low temperature, 45° C., will destroy the cancer toxin and will prevent the chemical reaction published by us as a test for malignancy.

Fourth:—The acid reaction showed a slight tryptophan and urichrome reaction in the first portion and a slight urichrome reaction in the other three portions treated with the same acid after standing.

DRS. C. H. WALKER and FREDERICK KLEIN.



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## The Medical Corps of the Army.

"From him that hath not shall be taken away even that which he hath." This scriptural sentence pronounced upon the unprofitable steward would seem to characterize the policy of our government towards a branch of the service, the incalculable value of which is one of the most striking lessons of the present world war.

Every reader of the daily press, no matter how low his mentality, is able to visualize the pictures of suffering and death depicted in his morning paper—except our legislators in Washington, who seem to be deprived both of imagination and ordinary business sense.

Throughout our history the medical department of the army has been the "under dog"—the only country in which it is so humiliated—although its unselfish and altruistic attitude has never been questioned.

Is an appropriation for the army grudgingly doled out by a reluctant Congress, this department gets the "leavings." Is a bill for increase of the staff presented, the "rider" applying to the Medical Corps is invariably shelved. Does a modest member of the Corps confer a benefit on humanity through his research work or study of an obscure disease, it is to the laity and to his own profession that he must look for recognition and reward, not to the Secretary of War or the Chief of Staff. He risks his life in the calm, unflinching performance of duty and no promotion, no medal of honor, not even mention in dispatches awaits him. He is only a doctor.

So much for the past history of the Corps.. Is it to be repeated, in spite of the lessons of the Civil War, of the Spanish-American skirmish? It would seem so.

Read the report of the hearing of General Gorgas before the Senate Committee on Military Affairs and

one will admit that his request is exceedingly moderate—only seven medical officers per thousand strength, instead of the present four and a fraction! Four hundred and forty-three is the actual number now on the rolls, with 4,000 men in the hospital corps. Let the reader picture to himself what would happen to our army in a single battle of modern proportion! The gruesome scenes described in the present war would be far surpassed and the wounded would simply be left to die. There are just 19 antiquated motor ambulances in our army!

In 1908 the Medical Reserve Corps (Inactive) was inaugurated and has reached a membership of over fifteen hundred, including many of our eminent surgeons in every state. Largely through the encouragement of the present Surgeon General and at their own expense this corps has sought to fit itself for active service and is developing great possibilities as a valuable asset in time of war.

Just at this time, when we hear so much about the establishment of an "Officers' Reserve" and the utilizing of the various trades and professions to that end, it is proposed to abolish this corps, for no apparent reason except some unscrupulous motive, such as appeals to Congressmen, whose ways are "past finding out." Protests have been made in the lay and medical press and the gentlemen on the committees can not plead ignorance of the attitude of the profession towards the question of medical preparedness, but apparently in vain. The terrible lessons of the Spanish war are unheeded. Politics and expediency rule, as they have since the time of Washington, and the dollar-mark is still our national emblem.

The perennial jibes at doctors are not confined to the funny (?) pages of *Life*, but seem to be current with those who aspire to be regarded as serious and "patriotic" lawmakers.

It is the burning shame of our army that the Medical Department must beg for recognition.

## Quarantine.

We were long among those who conscientiously opposed the transfer of the New York Quarantine Station to the direct control of the Federal Government. We would wish to take back none of the things which we said on the subject of this great issue. The facts which we submitted from time to time, and the opinions founded upon those facts, were sound. It now looks as though other opinions would prevail and we shall, of course accept the proposed solution with good grace. We take this occasion to assure the powers that be of our entire loyalty to the proposed regime, which, of course, will be permanent and which, we are certain, will make as admirable a record at the Port of New York as did that of Dr. O'Connell. It will not, because it cannot, make a better one.

## Collegiate and Intercollegiate Athletics.

Our March symposium on track athletics and their effect upon participants offered practically conclusive evidence that no harm results where the men are properly supervised by medical directors.

Physiologic cardiac hypertrophy need not be exceeded. Investigation shows that athletic participation has been overworked as a cause of premature death in athletes. As to the third point, the elimination of all competition and the participation of the whole student body, we should like to express the following thoughts.

The critics like Mr. William T. Foster (*Atlantic Monthly*, November, 1915) always assume that all who

sit on the bleachers and cheer at a football game are sedentary persons who never move a muscle. They may not be football players, but they are not necessarily strangers to the gym, the track or the pool.

As to the competitive element, we fancy that there is a certain austere puritanism in the souls of gentlemen like Mr. Foster. The reader will recall the story about the Puritans who objected to bear-baiting, not because they were concerned about the sufferings of the bear, but because they did not like to see the spectators enjoying themselves. The Foster school of critics are really not so much concerned about the physical, mental or moral harm that may come to the competitors and debauched on-lookers as they are about the dominance of a fine, healthful, enthusiastic spirit of sport in place of—what? Why dry-as-dust scholarship, of course. Mr. Foster says so himself. He exaggerates all the evils of intercollegiate athletics in order to convince us that the college student's real place is "riveted to the severest tasks of scholarship."

#### Contraception.

The contraception agitation is entering an interesting phase. What with the prosecution of Mrs. Sanger and Emma Goldman, and the favorable pronouncements of men like Dr. Herman Biggs, the subject has become a very live one.

Our fear of contraception is a paradox, because it really serves to effect beneficent racial results that are morally desirable. It anticipates the operation of the Darwinian law of the survival of the fittest. Its value in modern life is that in times of peace it eliminates the unfit before they are born and tends to offset the bad effect of intensive preservation of weaklings as applied by so many of our institutions. It will, when more extensively practiced, be even more effective in weeding out faulty stocks than is the decimation of weaklings observed among non-combatants in times of war. When that time comes we shall be able to dispense with a good many of the aforesaid institutions. A cruel system, carried on in the name of religion and morality, will then pass. Peace hath its eugenic agencies no less than war. Millions unborn will be saved by contraception from the curse of a handicapped existence.

Contraception is a device of the luxurious and indolent in so far as the prosperous classes are concerned. Economic pressure has nothing to do with its utilization by the selfish and by the degenerate rich; and its election by those who confessedly find it hard to stand up against the stresses of life is an expedient whose adoption is in itself proof of the lack of those qualities which make for manhood and womanhood and for social success. The practice of contraception, then, anticipates the Darwinian law in its inevitable operation upon the faulty stocks that necessarily emanate from the luxurious, enervated, indolent and those unable to acquit themselves well in the competitive struggle. It will undoubtedly be widely adopted in time by that highly neurotic immigrant stock certain elements of which just at present are such a grievous burden for us to bear.

France to-day is presenting her splendid spectacle of utter efficiency to the world because only the fittest of her people have survived, and the chief factor there has admittedly been contraception. Surely we have heard the last of the croakers about decadent France. Holland would give an equally good account of herself if the need should arise and for the same reason.

The truth is that in an old, civilized country, a low birth-rate is a normal phenomenon.

Our own birth-rate will not lower materially for some little time to come, because at present contraception is not utilized by all classes. Perhaps we should say rational family limitation rather than contraception, since our good stock will never overwork contraception and have but one child or none in each household. Our sound middle class will not be emancipated from the fetters imposed upon them for a little while yet. Popular opinion and the legal expression of that opinion still penalize the spread of the gospel of family limitation.

#### The State Hospital as a Center of Mental Health.

The extension of the out-patient activities of our State hospitals for the insane is a wise movement and one which will go far in the prevention of mental maladies. This extension is taking place rapidly under the direction of the State Hospital Commission, with the support of the Governor. Nine of the thirteen institutions are actively in the field. The law authorizes the superintendent of each hospital to appoint a social worker or field agent and to open a dispensary for the free treatment of mental and nervous troubles. The appointment of physicians is also authorized. It is proposed to extend the dispensary system throughout each hospital district, with visiting field agents and staff physicians.

A specialist from a State hospital examines all who come and advises with them and their relatives, or with the family physician. The result of the early discovery and treatment of persons on the verge of a mental breakdown is certain to prevent some complete collapses.

Thus our State hospitals will become centers of mental health as well as institutions for the care and treatment of the actually insane. This will broaden the experiences of the staff physicians and make them responsible for the mental health of their communities. Routine, traditionalism and stagnation will be minimized. An intelligent public sentiment toward mental disease will be developed, and it will come to be regarded in the same light as are bodily diseases. To the public will be brought the expert knowledge and services of the highly trained staffs of the institutions and a close working relationship will be established.

#### Colonies for Feeble-minded.

There are about 30,000 feeble-minded persons in New York State. About 6,000 of these are in State institutions and at Randall's Island. It is proposed to colonize the least feeble-minded and have groups of such defectives employed in various sections of the State on public or other works, under careful supervision. It is said that all the work of grading and making roads and some parts of the construction at State institutions could be done by groups of feeble-minded youths from Rome State Custodial Asylum. The reformatories should be drawn upon for their share of the feeble-minded, for from 15 to 45 per cent. of their wards are mentally defective. The women employed at making fine embroidery for want of proper work to fill up their time should be transferred to institutions where they could darn the stockings of children and do other needed work. Our institutions are not properly co-ordinated, there is too much red tape, and the appropriations are not apportioned with any reference to broad administrative control.

Why not mobilize the fairly able-bodied and least mentally crippled at Randall's Island for certain civic work not now properly covered? Surely our industrial experts could assign them to the proper squads.



### A Measure Unjust to Physicians.

It is with great pleasure that we record the unanimous adoption by the New York County Medical Society of its Legislative Committee's report against the Mills Bill "to establish a system of insurance to provide benefits for employes in cases of death, sickness and accident not covered by the workmen's compensation act."

Medical work under such a system as the bill proposes would necessarily result in poor service, and the profession sets its face unflinchingly against all proposals calculated to debase the character of the medical services rendered. The argument that the amount of sickness would be reduced under such systems is puerile and impudent.

The only way to reduce sickness, said Dr. Samuel J. Kopetzky, who read the report, is to institute a system of State medicine and to ask the State to employ physicians and surgeons and pay them a just wage, exactly as the State pays for other services rendered its citizens.

The medical profession should lend itself to none of the schemes concocted by the retainers of the class which is determined to substitute charity and philanthropy for economic justice.

### The Need of a Central Body.

We should like to know why our numerous local societies are not co-ordinated, without regard to sectarian lines. It would seem desirable to have a central body of delegates, truly representative, empowered to deal with questions concerning the whole professional body, and who would not only act for the whole profession but impose definite policies upon each society unit. There are a vast number of individual societies, each acting as though there were no others. Thus our counsels are divided and the whole body as a body is relatively impotent, however active certain individual societies may be. It can hardly be urged that academies and State societies speak with the voice of all.

Considering the pass to which many professional matters have come it behooves us to organize strongly, instead of muddling along in the old *laissez-faire* fashion.

Our professional tone seems to be lower than it ought to be, as evidenced by the itch for publicity and the entrance into the profession of new elements that are crude and uninterested in honored traditions, despite higher educational qualifications. We have lost in prestige and esteem. Our lack of strong organization is another evidence of our low tone, considering the many menaces that beset us. The final triumph of irregular practitioners, New Thoughtists, etc., is a constant danger. We are not represented in legislative matters by a paid committee. Less responsibility is felt than ever before. We recently owed our salvation to the wisdom of Governor Glynn, who took occasion to rebuke us for not properly looking after our own affairs. Libraries are neglected and the administration of societies left to what are unjustly called cliques, which are really groups of men feeling some responsibility.

Have not medical societies larger objects than social and scientific ones? Suppose they are taking into account many phases of medicine, such as health insurance, socialization, Health Board encroachments, the defective unborn, twilight sleep, the legislative menaces, the preliminary (premature) note, pseudo-ethical cancer cures, soiled professional linen, fee-splitting, sleazy eugenics, charlatanism with respect to the use of impressive but useless apparatus, the abuse of proprieties, reprehensible advertising in the journals, exclusion of reputable physicians from the care of their patients in

hospitals, exorbitant fees, and insufficient fees. Are these matters only the concern of isolated societies? What great good is going to result even if the members of certain societies are controlled by well formulated principles and policies, if there is no general professional action? Suppose members do put things up to the councils relating to live questions and get proper local action based upon sound and even militant policies; what of it if individual societies are well administered if there is no great guild representing them all? We know, of course, that there are many societies that are thoroughly dynamic in themselves. The recent action of the New York County Medical Society with respect to the Mills Health Insurance Bill was most gratifying, as have been other acts of that society, whose core must be wholly sound.

The course that we should pursue is clear enough. But how can all these societies be galvanized into co-ordinate, non-sectarian organization and action? This is our most pressing problem.

## Miscellany

CONDUCTED BY ARTHUR C. JACOBSON, M. D.

### Magic and Medicine.

When Churchill first enthralled the profession with the hypophosphites, about 1858, he claimed to have cured one-third of his tuberculous patients and improved another third. They not only cured tuberculosis but acted as hematinics. In some of his patients he noted such a production of new blood that epistaxis and rectal hemorrhages occurred. There was a tonic effect so marked that heavy beards were grown in a short time, wisdom teeth erupted prematurely, and the bed-ridden rose and walked. There was an acceleration of the pulse, the temperature rose above normal, the face and lips became injected, and there was a marked diuresis.

We know now from the work of Marriott, of Baltimore, than the hypophosphites have no physiologic effect, that they influence no pathologic process, that they are not foods, that they have no therapeutic value, and that if they are of any use whatever that use has never been discovered.

It seems to us that the history of hypophosphite therapy is a striking example of the extent to which the profession may be misled by mystical notions about alleged remedies. We seem especially apt to get befogged about things that are hard to find or to make. Radium is referred to by respectable authors as "magical" in its effects. Now it appears magical to us, says Francis Carter Wood, simply because we do not understand it. When we do come to know more about it its alleged effects in the treatment of internal cancer will take rank with the old claims of Churchill with respect to the hypophosphites.

Just as Churchill made his preposterous claims for the hypophosphites, we are now being treated to the odd spectacle of one of our most eminent colleagues seriously assuring patients suffering from uterine cancer that he can cure them. Is it possible that he really believes this? There is no warrant in our experience for guaranteed cures. Yet this man is probably no more of a quack than was Churchill. We don't doubt Churchill's sincerity, and other men thought they observed what he observed (e. g., Rabuteau).

There is a deal of harm done by such a man that merits some kind of retribution. Women travel from all over the country to be treated by him. Many re-

ceive a curettage, cauterization, and several hours exposure to the radium emanations. They pay their fifteen hundred dollars and return home with an absolute guaranty of cure. They are deluded, of course. It is not altogether postponement of surgical intervention that we deprecate in these cases, for we know how poor the results of surgery are. Our objection is an ethical one. There cannot be the remotest justification for the guaranty of cure, any more than there could be in the case of pneumonia. It is absolutely unethical to hold out such a promise in any circumstances. In the case of uterine cancer this attitude approaches the character of a grave moral delinquency. One who can become so obsessed about medical magic is not a desirable member of the profession, whatever his eminence.

#### A Farcical Pledge.

"I pledge myself, as far as I am able, to avoid the sins of selfishness; to shun unwarranted publicity, dishonest money seeking, and commercialism, as disgraceful to our profession; to refuse utterly all secret money trades with consultants and practitioners; to teach the patient his financial duty to the physician, and to urge the practitioner to obtain his reward from the patient openly; to make my fee commensurate with the service rendered and with the patient's rights; and to avoid discrediting my associates by taking unwarranted compensation." [Pledge taken by the members of the American College of Surgeons.]

This pledge is a farce in so far as two of its items are concerned, namely, "to teach the patient his financial duty to the physician, and to urge the practitioner to obtain his reward from the patient openly."

It is a farce because the reputable practitioner cannot be excluded from the hospital bedside of his patient and at the same time have his patient financially obligated to him; and it is a farce because the practitioner cannot consistently be urged to obtain his reward from the patient openly, when he is not permitted to earn a reward.

So it might be said that the farcicalness of the pledge is aggravated by the smug declaration at the outset that the member will avoid the sins of selfishness—a third count against this rhetorical jumble.

The Pharisees who fabricated this specious pledge know very well that the fees earned by the practitioner before his patient is referred to a hospital surgeon are too small to enter into consideration in any serious discussion of this subject. It is the practitioner's exclusion from the post-operative care of his patient that mulcts him. He could not be excluded from the patient's home, but in the hospital he hasn't the standing of a thug.

But the men who made this pledge are all honorable men—heaven save the mark!

There is no institution in American life less democratic than the hospital.

Some of the sins of the general practitioner have been due to his exclusion from the hospital, which would unquestionably have developed him.

However, the exclusion of the bulk of the profession from the hospital has developed an independence which to-day scorns institutional service that is unpaid. In this respect the "outs" differ vastly from the effete "ins."

It is now too late for the "ins" to extend to decent men decent privileges. The injustice of years could not be undone in such a simple way. We have developed a set of impulses, desires and necessities that could not be satisfied by our smug brethren. Quite a different solution will soon be in order.

#### The Medical Scapegoat.

Why is it that a specialist can muddle along with a sympathetic ophthalmia, or a glaucoma, or a rapidly occluding laryngeal growth, or an eye full of pus, or a mastoid, and get away with it? Is he sacred?

This very specialist has been known to take every opportunity to denounce the criminal culpability of the general practitioner who has done things far less heinous.

Then there is the surgeon who is continually talking about why his results in cancer are so bad, in other words talking about the physician who fails to diagnose the disease early. He also deplures the delays and therapeutic ineptitudes of the family physician in abdominal cases. One would think that this gentleman was a reincarnated saint. But we know a thing or two about his own sins of omission, like neglected post-operative dressings of all kinds, even the most delicate, where such neglect threatens sepsis or destruction of vitally important structures. As to his delays in reaching cases that have been called to his attention by practitioners, and his postponements after the cases are decided to be immediately operative, every doctor is informed.

The tuberculosis experts, professional and lay, have a particular grievance against the family physician, who never, to their minds, makes a sufficiently early diagnosis. All very well, but the family physician never sent non-tuberculous children to a tuberculosis sanatorium in order to inflate its recovery rate.

Upon the whole we think the general practitioner has been too much of a scapegoat for the profession, and we move that some of the abuse and odium be diverted. We open the ball with the aforesaid gentle hints.

#### Alien Insane in New York.

The laxness of the United States government in permitting so many insane immigrants to enter the country and its failure to reimburse the State of New York for their maintenance and care while patients in the State hospitals are criticised in the annual report of the State Charities Aid Association now being distributed. The Association has long been advocating a more adequate mental examination of immigrants at ports of entry.

The alien insane in the State hospitals on October 1, according to the official figures of the State Hospital Commission, numbered 9,208, or 26.8 per cent of the entire patient population! One out of every four patients in the New York State Hospitals is an alien, yet the taxpayers of the State have to support them.

The occupation of alien insane in the State hospitals, it is shown, seriously aggravates the overcrowding as well as imposes a heavy and unjust financial burden upon the State. This State suffers particularly in this respect because such a large percentage of the immigrants entering through the port of New York remain in the State.

It costs about \$210 a year to maintain a patient in a State hospital. With 9,208 aliens in its institutions for the insane this State thus is compelled to pay nearly two million dollars a year for the maintenance of persons who are neither citizens of the State nor of the United States.

"It would seem imperative," says the report, "that renewed efforts be made to impress upon the federal government its duty and responsibility to pay for the maintenance of the alien insane necessarily held in the New York State hospitals. The Association takes this occasion to urge with all possible vigor and earnestness that pressure be exerted upon the Federal Government to secure the performance of its plain duty."

"The Federal government receives a \$4 per capita tax upon immigrants when they arrive in this country, presumably to defray the cost of the immigration service. This revenue to the treasury has exceeded the cost of the Federal Immigration Department by over a million dollars annually in normal times. Why should not the Federal Government reimburse this State for the care of deportable aliens from the excess of the immigration per capita tax over the cost of maintaining the Bureau?"



## The American Association of Clinical Research

JAMES KRAUSS, M. D., Permanent Secretary and Editor.

### THE PROPER USE OF DRUGS.\*

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New York.

Only those unfamiliar with the wonderful curative properties of drugs join the ranks of the therapeutic nihilists.

Medicinal therapeutics is divided into curative, palliative and mechanical. The curative action of drugs must be based upon empiricism, *contraria contrariis*, serum, auto or stock vaccine or chemical therapy, the use of the secretions of the ductless glands, biochemistry and the method of symptom similarity.

Let us examine the efficiency of each method. Empiricism is of value only after repeated and unquestionable verifications. Ordinarily, such prescribing is dangerous and untrustworthy. It will be found on close examination, however, that established cures based upon empiricism really belong to another system of prescribing. *Contraria contrariis* can never establish itself in the field of curative medicine. We all know that drugs have two actions, a primary and a secondary. The primary action is the direct poisonous effect of the drug, as the purgation of croton oil, the stimulation of strychnin, etc. The secondary action is the reaction of the body against the action of the drug. This reaction does not stop at the median line, but continues past that point. Constipation follows the use of a cathartic, depression follows the use of a stimulant, etc. This method practically belongs to the field of palliative medicine.

Serum therapy is of great value, but the field at present is limited to six more or less efficient serums, antidiphtheritic, antistreptococcic, antimeningitic, antitetanic, antigonococcic and antitubercle. No one who has carefully and unbiasedly examined the records will doubt the influence of diphtheria antitoxin in controlling this dread disease. Antitoxins are not really drugs as we understand them, but antidotes formed within the body of animals. Nature will form its autogenous antitoxin in a case of diphtheria. This will require time, however, and we run the risk of the profound toxemia resulting before such is accomplished. By injecting the stock antitoxin we antidote the poison before the tissues are attacked. By the proper use of drugs we simply aid nature in forming its autogenous antitoxin; in serum therapy we add it directly. The philosophy is the same.

Vaccine therapy is only a modification of a method taught in 400 B. C. by Xenocrates and introduced into modern medicine by Dr. Lux in 1823 under the name of isopathy. He taught that attenuated toxins formed in the body were capable of curing the very diseases which they produced. Hering, Swan, Burnett and others did much along this line. Hering proposed the employment of diluted saliva of a rabid dog for hydrophobia in 1833, antedating Pasteur. Swan antedated Koch in the discovery of tuberculinum. Koch introduced his tuberculin in 1890. Burnett began his great work with this remedy (under the name of bacillinum) in 1885 and obtained results never dreamed of by Koch. The secret of Burnett's success lay in the infrequent repetition of the dose. This gave the body a chance to react. Infrequent repetition is the successful method of

treatment by isopathy to-day. Autogenous and stock vaccine therapy is a valuable addition to the field of medical science. It is closely allied to the method of symptom similarity, differing in the fact that it is the same curing the same instead of similar curing similar.

Chemical therapy has a limited application as a palliative measure in certain conditions, as the use of an alkali in acid dyspepsia. Such treatment is in no way curative. The direct action of an antidote in cases of acute poisoning is another example of chemical therapy.

The treatment of disease by the use of antiseptics has been to a large extent a failure. It has a place in parasitic diseases of the skin and in certain infections. The use of strong and poisonous chemicals which lower the resistance of the tissues is fast falling into disrepute. Normal saline solution and  $H_2O_2$ , along with the similar remedy are far superior to the application of poisonous tissue destroying agents. Internal antiseptic treatment has proved of very doubtful efficiency. The destruction of the *palmodium malariae* by the use of quinin and of the *spirochaeta pallida* by salvarsan although commonly classed as specific medication really belong to internal antiseptics. Quinin is capable of curing certain cases of malaria in doses too small to directly destroy the plasmodium. This *modus operandi* will be discussed later. Salvarsan, although possessing a marked action on the life of the *spirochaeta*, has not established itself as an absolute cure.

The use of internal secretions belongs to the field of palliative medicine. The use of remedies affecting the secretions of the ductless glands, as recommended by Sajous, needs further clinical verification.

Biochemistry consists in adding the inorganic salts, silica, calcarea phos., etc., supposed to be deficient in various diseases.

The remaining method of medicinal therapeutics is that of symptom-similarity. This method introduced by Samuel Hahnemann teaches that drugs which are capable of producing certain symptoms in healthy human beings will remove those symptoms when prescribed for those suffering from disease. This power lies in the secondary action of the drug. Each drug produces its own characteristics in its direct or primary action. The body reacts against the action of the drug in an opposite direction, this reaction continuing past the neutral line. It is this reaction which produces a cure. It makes no difference how many and how complex the symptoms produced by the primary action of a drug may be, when reaction occurs, which must follow as surely as night follows day, a force will be exerted on every symptom in an opposite direction and a cure or amelioration can be the only result.

Hahnemann at first gave remedies in the usual doses then prescribed, but produced marked aggravations of the symptoms before reaction took place and cures resulted. This led him to reduce the size of the dose. He found that by attenuating the drug so that the primary effect was not manifest to the patient's senses, reaction would more readily occur. It must also be remembered that the human organism is more susceptible to drug action than to the influence of disease. We can expose ourselves repeatedly to the contagion of scarlet fever without contracting it, but no one is immune from the action of belladonna in a dose varying to the sensitiveness of the individual. Again, the diseased body is more susceptible to drug action than a healthy one, and will therefore react to a smaller dose. Different

\*Read before the 7th annual meeting of the American Association of Clinical Research at Philadelphia, on September 24, 1915.

strengths are required varying with individuals, diseases and drugs.

The question that interests this body of scientific physicians, those seeking truth from any source, is the results obtainable by the system of symptom-similarity. It is impossible in a short paper to present many statistics, but those interested can consult "The Logic of Figures of Comparative Results of Homeopathic and Other Treatments," edited by Thomas Lindsley Bradford, M. D., a pamphlet published by the International Homeopathic Council, and other works of this nature.

Let us take for example one of the common diseases, pneumonia. Osler says: "Pneumonia is the most fatal of all acute diseases, killing more than diphtheria, and outranking even consumption as a cause of death." Following are a few figures concerning pneumonia:

	Mortality percentages
Montreal General Hospital.....	20.4
Charity Hospital, New Orleans.....	28.01
Johns Hopkins (Whites).....	25.
Johns Hopkins (Blacks).....	30.
Pennsylvania Hospital.....	29.
St. Thomas's Hospital, London—	
20–30 years.....	22.
30–40 years.....	30.8
40–50 years.....	47.
50–60 years.....	51.
60–70 years.....	65.
General average, 34.821 per cent.	

Statistics from some other sources covering thirty-two years, old treatment, mortality 29.5. Homeopathic treatment, 3.9. As with pneumonia, so with typhoid, scarlet fever, etc.

Permanent disease of the heart as a sequel to rheumatic fever, old treatment: Out of 889 cases heart lesions were found in 57.50 per cent. (*Sir Clifford Allbutt's "System of Medicine."*) Percentage of heart lesions following first attack, 58.1 per cent. Following second attack, 63 per cent. Following third attack, 71 per cent. (*Osler's Practice of Medicine.*) Homeopathic treatment, 15.3 per cent (London Homeopathic Hospital). I could quote and quote and quote statistics, but time and space will not permit. It must be remembered that in order to obtain the best results from the method of symptom-similarity constant and untiring study of drug action is necessary.

To acquire a working knowledge of materia medica, it is not only necessary to know the general action of important remedies, but their characteristic symptoms must be actually known, a task requiring application not required in any other field of medical science. Such labor will be well rewarded.

It was the opposition of the medical profession, one slow to see and accept new truths, which caused the formation of a new school.

It is interesting to see the attempts made to-day to appropriate the system of Hahnemann. A few extracts from a paper, "Therapeutic Reform," by W. M. Storar, L. R. C. P., L. R. C. S., read before the Ulster Branch of the British Medical Association, April 5, 1905, shows how this is tried:

"The use of drugs as a means towards healing the sick has within recent years fallen very much into disrepute. So much is this the case that it is no uncommon thing to hear even a medical man exclaim: 'Ah, I don't believe in physic. There are only four or five drugs I have any confidence in.' An article in 'World's Work and Play' for November, 1904, called 'The Decadence of the Drug,' by Dr. C. W. Saleeby, expresses this view exactly. He says: 'When you have mentioned quinin in malaria, mercury in another disease, iron in anemia, and sodium salicylate in rheumatic fever, we have practically exhausted the list of drugs which have any specific action in disease; and of even this brief list the qualification must be made that salicylates, invaluable as they are, do not cure rheumatic fever. With one or two striking exceptions drugs

do not cure disease.' Unfortunately, this is not merely an individual opinion; it is common in the profession.

"All this explains why we so seldom see an article on therapeutics in our medical journals. Most of the pages are devoted to physiological and pathological disquisitions of very little value to ordinary practitioners, the remaining space being given to minute accounts of new and wonderful surgical procedures. We are all prepared to admit that in the not very remote past too much reliance was placed on crude drug treatment, and too little attention was given to all the supplementary sciences now included under the terms hygiene and preventive medicine. But while surgery has advanced by leaps and bounds until there is scarcely an organ in the body beyond the reach of the surgeon's knife, medicine has made no corresponding progress. Some say no further progress is possible—that we must only be careful not to interfere unduly with the *vis medicatrix naturae*, that we may easily do a lot of harm with drugs while it is very questionable whether we can ever do any good. Such therapeutic pessimism is the prevailing professional tone. This paper is written to discover, as far as may be, whether there is really any good excuse for this feeling of hopeless inefficiency.

"The giving of physic may be only one of the minor and occasional duties of a physician; still, as we hope to show by a few examples, most of the drugs in the Pharmacopœia are valuable if used with proper science and discrimination. They are our tools—what we need is greater skill in using them. Hitherto we have had no laws—no rules which have been of any use in helping us to prescribe with any assurance that we should achieve desired results. Every man has been a law unto himself. A new drug very much vaunted one year is derided and discarded the next. There has been no stability anywhere. Now, all this is most unsatisfactory and very disheartening to any man with some love of science and a desire to do good work. Consequently, in order to see if there may not be some way out of this seemingly hopeless chaos, let us examine the testimony of a few of the most eminent men in our profession. Where we find them often in agreement, without suspicion of collusion, we may be able perhaps to find a reason for such frequent consensus of opinion. A series of seeming coincidences may cause us upon reflection to suspect natural law. As it is necessary to be brief, we shall cursorily examine only seven remedies—antimony, belladonna, cinchona and quinin, ergot, cantharides, turpentine and arsenic.

"I. Antimony—in the form of tartar emetic: Majendie found in his experiments with animals that it almost always induced inflammatory congestion of the lungs, from which the animals died. Christison, Taylor and other eminent toxicologists obtained the same results. According to Prof. Hughes Bennett, of Edinburgh, when antimony was the routine remedy for pneumonia the mortality was 1 and 5, whereas with no particular treatment, except careful diet and nursing the mortality was only 1 in 13½. Dr. Pereira naturally remarked that if antimony had a tendency to inflame the lungs, we should expect that large doses of it would not be beneficial in pneumonia.

"Prof. Sir W. T. Gairdner, in his 'Clinical Lectures on Pneumonia,' says: 'In general I regard the ordinary physiological action of antimony as quite opposite to its therapeutic action, and whenever the physiological action occurs, I make it a rule to suspend the remedy or diminish the dose, believing it to be on the whole much safer to forego the possible advantage of the antimonial medication than run the risk of superinducing the least degree of poisonous action.' He then records a case of pneumonia where he gave tartar emetic to an old, enfeebled, exhausted patient, and says: 'In this case, as in several others of similar character which have occurred to me, I ventured, notwithstanding the extreme weakness and exhaustion of the patient upon the administration of small doses, and was rewarded by seeing the remedy produce its best effects, viz., a therapeutic without the least trace of physiological action. The dose should rarely,' he says, 'exceed one-tenth or even one-twelfth grain to begin with, sometimes even less.'

"Sir W. Whitla, in pneumonia, recommends 'a simple combination' containing among other things vinum antimoniale 10 minims, i. e., one-twelfth grain, every four hours. Ringer, in the broncho-pneumonia of children, recommends doses of one-sixtieth grain, or even less."

The other remedies are then discussed and recommended to be prescribed on the homeopathic principle. Small doses are advised because large doses produce aggravations.

Dr. Storar's paper is much too long to quote in full, but copies can be obtained from Leath and Ross, 58 Duke Street, Grovesnor Square, W., London, England. His remarks on cinchona and quinin are of special interest because this drug was the means of starting



Hahnemann on his wonderful achievements. Dr. Storar says:

"Trousseau and Pidoux, quoting Bretonneau, say: 'Each day's observation proves that cinchona given in large doses to healthy persons causes in a great number of subjects a very marked febrile condition. The character of this fever, the time when it shows itself, vary in different individuals. There is often tinnitus aurium, deafness and a species of intoxication preceding the invasion of the fever, a slight shivering then occurs, a dry heat, accompanied by headache succeeds these first symptoms, which gradually abate and end by sweat.' They go on to say that 'further doses exceedingly aggravate this fever, which becomes intermittent in type,' and they even suggest that many aggravated cases of ague, so-called, are really cases of chronic poisoning with cinchona.

"It is scarcely necessary to remind ourselves that, in spite of the recently discovered connection between malaria and active germs in the blood, quinine is still the most reliable remedy.

"Charcot says: 'Quinin perseveringly used is sometimes attended with the best results in relieving the vertigo and tinnitus of Menière's disease.' Dr. Stephen Mackenzie says he has seen many cases which corroborate this statement.—(*Quinin's Dictionary*.)"

Just a few more quotations from his paper:

"The therapeutic value of a drug corresponds exactly with its pathogenetic or disease-producing powers."

"Or, in other words, 'The key to therapeutics is toxicology.' There is a corollary to this dictum, and of equal importance, which deserves more than passing mention. I refer to the small dose.

"The German physiologist, Max Verworn, in a chapter on 'Stimuli and Their Actions' (General Physiology—An Outline of the Science of Life) enunciates the following fundamental biological law which, he says, has no exception, viz.: 'Every substance which can paralyze or kill any cell or cell protoplasm can also act in small quantities (on the other side of an indifferent point) as a stimulus to such cell activity. The absolute quantities leading to such effects are,' he says, 'very different with different substances.'"

We may expect the doctor over to discover America at any time notwithstanding that Columbus did so more than four hundred years ago.

Von Behring says:

"In spite of all scientific speculation and experiment regarding smallpox vaccination, Jenner's discovery remained an erratic block in medicine till the biochemically thinking Pasteur, devoid of all medical class-room knowledge, traced the origin of this therapeutic block to a principle which cannot better be characterized than by Hahnemann's word, 'Homeopathic.'"

"Indeed, what else causes epidemiological immunity in sheep, vaccinated against anthrax, than the influence previously exerted by the virus, similar in character to that of the fatal anthrax virus? And by what technical term could we more appropriately speak of this influence, exerted by a similar virus, than by Hahnemann's work homeopathy?"

"I am touching here upon a subject anathematized till very recently by medical pedantry; but if I am to present these problems in historical illumination, dogmatic imprecations must not deter me. They must no more deter me now than they did thirteen years ago, when I demonstrated before the Berlin Physiological Society the immunizing action of my tetanus antitoxin in infinitesimal dilution. On this occasion I also spoke of the production of the serum by treating animals with a poison which acted better the more it was diluted, and a clinician who is still living remonstrated with me, saying that such a remark ought not to be made publicly, since it was grist for the mill of homeopathy."

Listen to some of the remarks of Lombroso:

"I cannot understand how there are men of science who do not admit homeopathy. It would appear ridiculous one hundred years ago, but now, after the progress obtained in all medical branches, it is a shame to consider that there may be a sole thinker who dare deny Hahnemann's doctrine with all its reasons.

"Dr. Amalio Gimeno, Professor of Therapeutics of the Medical Faculty of Madrid, who during his dissertation on Antituberculous Therapeutics, held in the National Congress of Tuberculosis, in Zaragoza, Spain, in October last, proclaimed Hahnemann a genius. 'Hahnemann,' he asserted, 'foretold the modern routes which science would take, and I regret to have offended him and his followers in former years.'"

"He expressed his sincere feelings on the subject, as follows: 'What I have stated is so positive that I, the author of a work on therapeutics, published in Valencia 25 years ago, and a text-book in the Universities of Spain, highly deplore to have

had devoted in said work some depressive pages to Hahnemann and his disciples, a wrong which modern discoveries are now committed to mend—pages I wish I were able to tear from my book."

Let us examine Osler's complete list of "curative remedies." Mercury produces symptoms resembling those of secondary syphilis; pains in the periosteum, aggravated at night, similar skin lesions, inflammations of the lymphatic nodes, etc. That mercury does not attack the flat bones nor produce iritis as does syphilis is no argument against its homeopathicity. Iritis is not a constant symptom of syphilis and the flat bones are only affected in the so-called tertiary stage in which mercury does little or no good. Some other drugs like aurum, nitric acid, etc., will accomplish more at this time. The symptoms must decide the choice.

It was the similarity of the symptoms of cinchona bark to those of intermittent fever which caused Hahnemann to begin his great work. That quinin can destroy the plasmodium malariae does not detract from the argument. It has been found that quinin can cure in a dose so small that some other explanation is necessary. The true solution lies in symptom-similarity.

Iron cures anemia because it is capable of producing it. At first the red corpuscles are increased, but later they are diminished and profound anemia results. This anemia is not the so-called secondary action or reaction of the body against the action of the drug, but is due to its continued direct poisonous effect. If we stop the remedy when the red cells are increased, we do not get a secondary anemia. It is the continued administration of the drug which produces that. Only a little care is required to differentiate reaction from continued primary action.

The use of salicylate of soda in rheumatism is the last of the Osler quartet of the "only curative remedies." Mr. Nankivell after taking ten grains of salicin produced a rise of temperature to 101°. This he repeated twice. (Dr. Wheeler's paper in the British Homeopathic Society.) A stout, well-nourished woman, aet 25, was treated for rheumatism with salicin, and although she received 1,400 grains in five days her temperature continued to rise, until at her death it was 111°. Dr. H. L. Chase produced from the 3x dilution of salicylic acid soreness and pain in the right deltoid and gastrocnemius changing the next day to the left wrist and forearm. There was soreness to touch and on motion.

These cases might tend to show the homeopathic relation between this remedy and rheumatism, but I do not think that a claim can be positively made. I agree with Dr. Hughes that rheumatism has been treated in three ways: First—by neutralization of the morbid acid with alkali. Second—by checking the formation of this morbid product with a remedy (the indicated homeopathic remedy does this). Third—by lowering the temperature and deadening the pain, but leaving the morbid product untouched. Salicylic acid and its salts probably come under the last classification and such treatment can only invite relapse. After reading the cases of poisoning reported in the *Cyclopedia of Drug Pathogenesis*, one would think twice before using this drug. After much experience with rheumatic cases, I am convinced of the superior efficiency of the similar remedy.

It is not the fault of the believers in the method of symptom-similarity that a separate school exists to-day. All physicians should be scientists, accepting truth in any form in which it is presented.

Palliative medicine. The method of symptom-similarity prescribing is capable of palliating incurable ills in the great majority of cases. It may be necessary sometimes to control great pain, produced chiefly by me-

chanical causes, by the employment of anaesthetic remedies, but a good prescriber infrequently resorts to such. I have time and again stopped the pain of patients suffering from cancer with conium, arsenicum, etc. I remember one cancerous patient who was brought to the Metropolitan Hospital suffering great pain. The pain was burning in character, aggravated at night and relieved by heat, a perfect similitum of arsenicum album. He had exhausted the action of morphin and his suffering was intense. Arsenicum album controlled the pain absolutely. The next day his family reprimanded me for giving "such a powerful drug, the only one that had given him a night's rest in a long time." Such experiences could be repeated but space does not permit.

The method of symptom-similarity does not apply to mechanical conditions pure and simple. A dilated heart with broken compensation requires the mechanical aid of such remedies as digitalis, strophantus, etc. The pupil must be kept dilated by the use of atropin in cases of iritis. The pain caused by the passage of renal calculi or gall stones may require the administration of anaesthetic remedies. This is not always the case, however. I have relieved such with aconite, berberis, calcarea carbonica, etc. It is my custom if the remedy does not control the pain in the same time required by morphin to resort to that drug without delay. We must learn to differentiate dynamic from mechanical conditions.

## Obstetrics and Gynecology

### Primary Uterine Inertia.

W. Blair Bell presented this report of a case to the Royal Society of Medicine, May 6, 1915:

Mrs. C., aged 31, who consulted him when she was eight months pregnant, gave the following bad obstetrical history: Four years previously at her first confinement, in which she was attended by two eminent obstetricians, the child, which was killed in the process of delivery, was extracted with the very greatest difficulty. The mother herself was severely lacerated, and was very ill afterwards. She was told that the delivery of a live child at full term was impossible. This child was supposed to be a little post-mature, and weighed 10 pounds. At her next confinement, two years later, she was attended by another well-known obstetrician who told her induction must be performed at the thirty-seventh week. For this purpose an anaesthetic was administered four times. Finally, a bag was put into the uterus. After much delay labor commenced, and, in spite of the induction of labor three weeks before the expected full term, the greatest difficulty was experienced in extracting the child with forceps. The patient was again under anesthesia for a long time, but fortunately a live child weighing nearly 7 pounds was delivered. The mother was again badly torn, and this necessitated two further operations. The patient was most anxious to have a live child, and Bell found the pelvic measurements normal: intercrural 11 in., interspinous 10 in., and the true conjugate  $4\frac{1}{2}$  in. (approximate). The child's head could be pressed into the pelvic brim. He noticed, however, as the patient lay on the couch on her back, that the outlines of the uterus could not be observed: the abdomen was flat, and it bulged at the sides as though it contained free fluid. The child was easily palpable, but it was impossible to stimulate contractions in the uterus by manipulation. The blood-pressure was only equal to that of 95 mm. of mercury. The blood calcium index was

only 0.3. In these circumstances he made a diagnosis of primary uterine inertia and ordered calcium lactate, and infundibulin by the mouth. At the end of fourteen days the calcium index in the blood had gone up to 0.56 and the blood-pressure to that of 110 mm Hg. The uterus showed more irritability and had a definite outline. Four days before the expected date of the confinement the patient went to a hospital, and then received  $\frac{1}{2}$  c.c. of infundibulin injected intramuscularly, twice a day, together with calcium lactate by the mouth. The uterus showed progressive sensitiveness, so, after three days of this treatment, the dose was reduced to one injection of  $\frac{1}{2}$  c.c. once a day. Two days after the calculated time for the onset of labor the patient was anesthetised and it was found that the os was dilating. As there had been no pains, Bell introduced two bougies at 10 a. m. At 9 a. m. she had received her usual daily dose of  $\frac{1}{2}$  c.c. of infundibulin. The same evening, at 9.30, the first pain occurred, and one hour later he removed the bougies. Labor proceeded normally; the first stage was over about 2.30 a. m., and a child, weighing  $10\frac{1}{2}$  pounds, was born at 4.45 a. m. No assistance was given, and only a drachm or two of chloroform was administered when the head was on the perineum. The placenta came away normally ten minutes after the birth of the child. A dose of 1 c.c. of infundibulin was then injected to prevent the possibility of *post-partum* hemorrhage. Bell thinks this is the first occasion on which primary uterine inertia has been diagnosed and treated before labor. If met with for the first time during labor, it would, of course, be useless to give calcium lactate, for it is only a prolonged course of treatment with this drug that can produce any effect. On the other hand, he believes that the difficulty may then be surmounted by the injection of infundibulin. (*Proceedings, R. S. M., 1915.*)

### "Siamese Twins" Ten Months Old.

O'Brien reports an unusual case of "Siamese twins." They were 10 months old and well-nourished when he reported the case. They were joined together at a point corresponding to the pubes. The surface of the abdomen from each costal arch presented a perfectly level plane, with no vestige of external genitals. There was but one umbilicus. The twins, when seen lying on their backs, presented an absolutely straight line. Each possessed a separate pelvis, perfect save for the absence of the symphysis pubis. The pubic bones lay 4 inches apart. The lower extremities projected from the normal pelvic articulation. When each pair of legs was extended, the legs of the twin placed uppermost lay above those of the other, and crossed at the kneejoints. The heart and liver were normal in both. There was a common abdominal cavity, the recti diverged outwards from their attachment at the costal arch, each pair meeting the other at the termination of an imaginary line drawn across the common umbilicus, leaving between them a diamond-shaped area. On close inspection rudimentary labia minora with a meatus urinarius were detected, but there was no vaginal orifice. Each twin had a separate anus, and micturated and defecated independently. The twins were remarkably similar and were distinguished by the ornaments which they wore. Both were happy and healthy; the mother nursed them simultaneously, one at each breast. She was mother of a normal child aged 5, and of another 3 years of age with hare-lip; both were living. The first twin presented at the vertex, and during delivery a pair of feet were seen pressing into its axillae; then the trunk common to both followed, and next the feet of the first fetus pressing on



the corresponding axillae of the second. Lastly the shoulders and head of the second child were delivered. There was a common cord and umbilicus. The twins were, it appears, born in a perfectly straight line. The labor lasted from 8 a. m. on one day to 6 p. m. on the third day.—(*Indian Med. Gas.*, No. 1, 1915.)

#### Vulvovaginitis.

C. C. Norris, Philadelphia, says that vulvovaginitis may be due to various organisms, but unfortunately in the large majority of cases in children the gonococcus is the exciting factor, and for this reason, and because of the difficulty of demonstrating the organism, all suspicious cases should be treated as if they were of specific origin. In the acute stage the gonococcus is usually readily isolated, but with the scanty discharge of the later stages it is very difficult. Its recognition is important, however, not merely for the diagnosis and proper treatment and safeguarding others from infection, but also to know from its absence when a cure has been effected. After proper treatment the difficulty is increased in chronic cases, and treatment is liable to be discontinued too early, to be followed by a recrudescence. He describes Van Gieson's method of determining the presence of the gonococcus by examining the centrifuged washings of the vagina, a method that Norris has employed for year with success. The description is too detailed to be reproduced. The principal points are the removal of any obvious discharge with a dull knife and examining the smear, or when the discharge is too slight to be examined, obtaining the organism by rubbing a smooth glass rod while the vagina is distended with a 1:5,000 mercuric chlorid salt solution. In still more difficult cases painting the vagina with moderately strong silver nitrate solution capable of producing a distinct reaction may bring out the gonococci in the washings.

In the treatment cleanliness is of the utmost importance and that here outlined is based on the following facts: "Desiccation quickly destroys the gonococcus. The organism does not thrive on squamous epithelium, except that of the immature variety, such as found in the vaginas of the young. Despite the fact that virulent organisms are constantly being deposited on the vulva and in the vagina, gonococcal inflammation of these areas is unusual in the adult. With these facts in mind, it is evident that cleanliness, drying and the development of the vaginal mucosa should be important factors in the treatment." The technic is described rather elaborately. In most cases he thinks it worth while to sacrifice the hymen, thus affording better drainage with more thorough treatment and cleanliness. Silver solutions are the principal therapeutic agents, beginning with a 1 or 2 per cent. solution of silver nitrate gradually increased to be used three times a week and during the interim the vagina should be washed out daily with a weak potassium permanganate or argyrol solution as a cleansing measure. The success of the treatment is dependent largely on its thoroughness and regularity, and it is safe to consider a cure has been effected when negative findings are obtained after three consecutive bacteriologic and physical examinations made at two weeks intervals after all treatment has been discontinued, the last examination being preceded by a chemical irritation of the vaginal walls with silver nitrate, as before mentioned, to reveal any remaining gonococci.—(*J. A. M. A.*, July 24.)

The term chronic meningitis is sometimes applied to the cases of simple basic meningitis which run a slow course of months.

#### Rupture of Uterus and Hysterectomy.

Fothergill contends that two thirds of the really serious cases of rupture of the uterus can be saved by prompt abdominal hysterectomy. At St. Mary's Hospital, Manchester, this practice was established ten years ago; 17 such operations have been performed there with no less than 12 recoveries. The condition of the cases was such that it is doubtful if any of the twelve would have recovered but for the removal of the lacerated organ.

Of the five fatal cases, Fothergill relates one in full. The patient was 41 years old. She had already passed safely through fourteen pregnancies, including five abortions. The final, or fifteenth pregnancy, ended five years after the last delivery at term, and four and a half before the last miscarriage. The presentation was transverse, and the patient's physician turned and delivered. Afterwards, when removing the placenta, he felt a rent in the right side of the uterine wall. She was sent into hospital at once in a state of collapse, pulseless and gasping, and hemorrhage had been free. Abdominal section was performed at once. The lower part of the abdominal wall, in front of the parietal peritoneum, contained much extravasated blood, yet there was relatively little in the peritoneal cavity. The damage was extensive, the peritoneum was lacerated as far forward as the anterior abdominal wall and the right side of the bladder, and the rent reached backwards nearly to the lower pole of the kidney. The bladder had been detached from all the adjacent structures, except the trigone and lowest part of its left lateral portion. The uterus remained attached to its left anatomical relations, but the lower segment and the cervix on the right side were represented by shreds of tissue and clot. The cecum and appendix and the adjacent colon and ileum were torn from their bed, and the hematoma extended on to the abdominal wall far beyond the infundibulo-pelvic ligation. The uterus was removed, the peritoneum drawn together as well as possible, and a gauze drain left over the seat of injury for forty-eight hours. The patient died on the sixth day, and an abscess cavity, well shut off from the peritoneum, was found in the pelvis, the pus tracking towards both kidneys. As version had been performed and the placenta removed by hand, it was not surprising, Fothergill concludes, that the lacerated wound was infected, yet a fair chance of life was given to the patient by the hysterectomy.—(*Jour. Obst. & Gyn.*, No. 1, 1915.)

#### The Advantages of Kelly's Method of Cystoscopy in Women.

Hiram N. Vineberg of New York insists that Kelly's method in cystoscopy for the gynecologist possesses many advantages over any other method.

So many gynecological patients suffer more or less from dysuria and frequent micturition that the gynecologist for the most part must be prepared to examine these patients' bladders himself. The simplicity of the method and the absence of any features which may lead to misinterpretation have often been the means of leading Vineberg to a correct diagnosis, when other men with larger experience in genitourinary diseases have been in error. It occasionally occurs that a condition of the bladder is present that makes it impossible to examine the interior of the bladder with a prism cystoscope, requiring, as it does, a certain amount of clear liquid medium. Take, for instance, a very irritable bladder with extensive tuberculous ulcerations, in which the smallest quantity of fluid is immediately ejected with great tenesmus, even with free cocaineization of the

bladder. He mentions the case of a highly neurotic girl of eighteen, with a very irritable bladder due to secondary tuberculous cystitis. It had been assumed that the bladder affection was secondary to renal tuberculosis, but it had not been possible to determine which kidney was affected, as the patient was entirely free from pain in either kidney region and palpation could not detect any enlargement or tenderness in either side. An unsuccessful attempt had been made on three different occasions, to obtain a view of the bladder interior or to catheterize the ureters. By cocaineizing the bladder and placing the patient in the knee-chest position he readily with a small Kelly cystoscope catheterized both ureters. The collected urine from each ureter showed that the right kidney was the one involved and on its removal it was found to be riddled with tubercular ulcers.

The great majority of bladder disturbances in women are due to a localized cystitis frequently limited to the trigonal area. These cases will usually resist the ordinary method of treatment and will yield only to a direct application of solutions of nitrate of silver of varying strength. These applications can effectually be applied only through a hollow tube such as Kelly's cystoscope with the patient in the knee-chest posture. In any other posture it is well-nigh impossible to have the field entirely free from urine, and we know how futile it is to apply solutions of nitrate of silver to an ulcer or hyperemic area bathed in urine.

The removal of foreign bodies and small growths can be more easily accomplished through the Kelly tube and with similar instruments than through any other form of cystoscope.

To sum up, Kelly's method of cystoscopy is so easily learned, and is so free from errors in interpretation that it forms the method *par excellence*, for the gynecologist who has neither the time nor the vast experience necessary to become an adept in the use of the prism cystoscope. Further, in addition to being an easy method of diagnosis, it forms at the same time a ready means of making topical applications directly to the diseased areas and for the removal of foreign bodies and small growths.—(*Med. Record*, Aug. 14, 1915.)

## The Physician's Library

### Modern Aspects of the Circulation in Health and Disease.

By Carl T. Wiggins, M. D., Assistant Professor of Physiology in Cornell University Medical College, New York City. Philadelphia: Lea & Febiger, 1915. Pp. vii, 376.

This work is essentially the result of a careful study of the literature, to which is added personal investigation in the laboratory. Every effort is made to insure accuracy of conclusions, even to a painstaking analysis of details of construction of instruments of precision which contain inherent sources of error. The recognition on the part of the author that physical measures may lead to mathematical inaccuracies as well as that, while various instruments are required to detect many phenomena of the circulation which cannot be discovered by the unaided senses, these require interpretations of their records and an appraisal of values, enhances the importance of the work before us. In taking up systematically the most modern conception of how the circulation is maintained in health, and following with a presentation of the instruments of precision, so-called, we come to the important part of the work to the practitioner—how the results of experimental investigation may be made to harmonize with clinical procedures, the result of training and experience. It this last portion that those whose responsibility for the alleviation of suffering and for the cure of disease find their greatest interest. When accurate clinical findings are confirmed by a critical study of laboratory results their importance becomes greater and the confidence of the practitioner rests upon a firmer foundation. We believe that every internist can analytically study this book to the end that his practical work will be of greater and more enduring value.

**Diseases of Nutrition and Infant Feeding.** By John Lovett Morse, A. M., M. D., and Fritz B. Talbot, A. B., M. D., Professor and Instructor, respectively, of Pediatrics, Harvard Medical School. New York: The Macmillan Company, 1915. Pp. viii, 346.

If anyone expects to find in this book dogmatic statements in respect to a hard and fast plan of feeding infants which is suitable for all suffering from no or any disease or from any phase of the latter, and which can only fail if not carried out with strict adherence to all details advocated by the author or only if not under his supervision, he will be disappointed. Adherence to the teaching of such a book would only compel the practitioner to have recourse to another author of the same type should he fail, and so on until a plan was discovered which would be successful or defeat was encountered.

What the reader really finds is, first, a wonderfully complete review of the modern literature on physiology and metabolism, breast and artificial feeding and, what makes this of greater value, references to the original source of each statement so that it is possible to verify the author's concept of the original observed facts. This is educational. Second, the teaching of the Harvard Medical School in regard to infant feeding, as such, and in its relations to diseases of the gastro-intestinal tract and of nutrition, is presented clearly and succinctly, and occasionally in epigram, as the authors' understanding of the proper conclusions to be drawn from the scientific basis predicated upon data obtained by modern laboratory methods. This is practical. Here the practitioner will formulate his methods of dealing with his daily problems. Commencing the reading of this book with the notion that it was simply another of the usual type, it was finished with the feeling that it has increased knowledge and power in successfully battling with important problems and, best of all, that this confidence rests upon sound foundations. Nothing further in commendation need be said.

**Practical Materia Medica and Prescription Writing.** By Oscar W. Bethea, M. D., Ph. G., F. C. S., Assistant Professor of Materia Medica in Tulane University of Louisiana, etc. Philadelphia: F. A. Davis Company, 1915. Pp. viii, 549.

What agents are more efficient to limit or abate the disease, to relieve the symptoms and to aid the patient in restoration to health are catalogued in standard works on materia medica and on therapeutics and are cited in treatises upon the practice of medicine. The purpose of this book is to give information as to what form and by what methods these agents shall be employed to obtain the best possible results and how orders for these agents should be written. Prescription writing is often, indeed more often, technically faulty, as the files of any apothecary will demonstrate, and the result is that the patient's interests are not best served. To remedy these defects is the author's aim, and a careful study of this book, and especially Part III, will not only go far in attaining the purpose of the author but will inspire greater confidence in the physician on the part of the pharmacist.

**Beauty a Duty.** By Susanna Cocroft. Cloth. 384 pages. Illustrated. \$2.00. Chicago: Rand, McNally & Co., 1916.

A woman is at fault if she is not beautiful. We have it from one of the leading exponents on beauty in the country. She believes that all women can be made most attractive by the proper attention, scientifically and conscientiously applied. The care of the skin hair, eyes, teeth, hands and feet is the royal road to beauty, and the author has laid down maxims which, if carried out, will transform the plain woman.

The book is a carefully prepared review of the actual experiences, clinical experiences, we were about to say, of the author's life work. She is an authority and we doubt not that any woman who will read this book and heed its precepts will greatly and lastingly profit thereby.

**The New Public Health.** By H. W. Hill, M. D., Professor of Public Health, Western University. Cloth. 206 pages. New York: MacMillan Co., 1916.

This is a revision of a series of articles which have already appeared in print and shows the differences between the old and new conceptions of public health. It is an interesting and instructive little book.

**Hygiene.** By W. J. Wilson, M. D., of Queen's University, Belfast. Cloth. 275 pages. New York: Rebman Company, 1916.

The author gives in detail the lectures he has given his students. They are elementary, but cover the subject well for the medical student, if one bears in mind the differences in sanitary customs and regulations between Ireland and the United States. The subject has been brought up to date and is well presented.

(Continued on ad. p. 18)

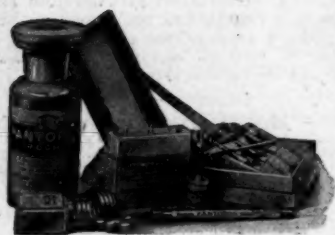


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(Continued from p. 140)

**Hygiene and Sanitation.** By Seneca Egbert, M. D., Professor of Hygiene in the Medico-Chirurgical College. Sixth edition. Cloth. 525 pages. Illustrated. Philadelphia: Lea & Febiger, 1916.

The latest in this important subject appears in the newest edition of this excellent book. The author discusses, among the other important subjects, heredity and marriage, ventilation, school, occupational and military hygiene, water purification and sewage disposal and vital statistics. The material is logically presented, in easy reading style and is brought down to solid facts. The continued use of the book is assured by the excellence of its contents.

**A Treatise on the Principles and Practice of Medicine.** By Arthur R. Edwards, M. D., Dean of the Northwestern University Medical School, Chicago. Third edition, thoroughly revised. Cloth, \$6.00 net. 1022 pages, with 80 engravings and 23 full-page plates in colors. Philadelphia: Lea & Febiger, 1916.

In presenting a new edition the author has taken the opportunity of including the very latest thought in medicine. Most of these points are well covered, though we believe Shick's test is deserving of more consideration than has been given it. The book is an exponent of modern medicine as taught in the light of our newer school and is a rational work in every way.

**Venereal Diseases.** By James R. Hayden, M. D., F.A.C.S., Professor of Urology in Columbia University. Cloth, 365 pages, with 133 illustrations, \$2.50 net. Philadelphia: Lea & Febiger, 1916.

This is one of the most useful manuals on the subject in print. It condenses in small space a remarkable amount of valuable information. Eighteen chapters are given over to syphilis, nine to gonorrhea and nine to other venereal conditions. The book is practical, concise and authoritative.

**An Autobiography.** By Edward Livingston Trudeau, M. D. Cloth, 322 pages. Illustrated. \$2. Philadelphia: Lea & Febiger.

It is left to few men to leave such an imperishable monument as Trudeau—not an obelisk of stone nor a shaft in marble, but a monument of eternal gratitude erected in the hearts of men. He tells in simple narrative the story of his quiet, masterful and purpose accomplishing life and it will touch a responsive chord in the natures of all who love their fellow men. His example of heroism and self-sacrifice is worthy of the emulation of all who would leave the world better than they found it.

**Sexual Impotence.** By Victor G. Vecki, M. D., Consulting Genito-Urinary Surgeon to the Mt. Zion Hospital, San Francisco. Fifth edition, enlarged. Cloth, 405 pages; \$2.25 net. Philadelphia and London: W. B. Saunders Company, 1915.

A useful and practical book, with some valuable new data.

**International Clinics.** Vol. IV. Twenty-fifth series. Edited by H. W. Cattell, M. D., and published quarterly. Cloth, 384 pages. Philadelphia: J. B. Lippincott Company, 1915.

Contains the usual number of good things, including the Alvarenga prize essay on Surgery of the Pancreas.

### BOOKS RECEIVED.

**Diagnostic Methods.** By Herbert T. Brooks, M. D., Professor of Pathology in the University of Tennessee. Third edition. Cloth. 96 pages. \$1.00. St. Louis: C. V. Mosby Company, 1916.

Full of useful information.

**Candy Medication.** By Bernard Fantus, M. D., Professor of Pharmacology in the University of Illinois. Cloth. 82 pages. \$1.00. St. Louis: C. V. Mosby Company, 1916.

Very useful in treating children.

**Infant Feeding.** By Lawrence T. Royster, M. D., of Norfolk. Cloth. 144 pages. \$1.00. St. Louis: C. V. Mosby Company, 1916.

Well worth reading.

**The Clinics of John B. Murphy, M. D., at Mercy Hospital.** Vol. V, No. 1. Published bi-monthly. \$8.00 per year. Philadelphia: W. B. Saunders Co., 1916.

As full of meat as ever.

**Diet for Children.** By Louise E. Hogan. Cloth, 160 pages. Indianapolis: Bobbs-Merrill Co., 1916.

An instructive book.

**Painless Childbirth; Eutocia and Nitrous Oxid-Oxygen Analgesia.** By Carl H. Davis, M. D., of Rush Medical College. Cloth. 134 pages. \$1.00. Chicago: Forbes & Co., 1916.

Much information in short space.

**The Medical Clinics of Chicago.** Vol. I, No. 4. Published bi-monthly. \$8.00 per year. Philadelphia: W. B. Saunders Co., 1916.

Contains nine clinics on topics of every-day interest.

### Death of Dr. W. L. Rodman.

The medical profession has sustained a great loss in the death of Dr. W. L. Rodman, president of the American Medical Association, who died in Philadelphia, March 8, of pneumonia. He was born in Frankfort, Ky., in 1858, and was graduated from Jefferson in 1879. After two years in the army, Dr. Rodman practiced in Louisville until 1889, when he was made professor of surgery in the Medico-Chirurgical College and removed to Philadelphia. He was president of the American Medical College Association in 1902, and in June, 1915, he was installed as president of the American Medical Association. He was also a member of the American Surgical Association and many other professional organizations. He was a prolific contributor to medical literature. His loss is deplored and his place will be hard to fill.

### Mrs. Smith Ely Jelliffe Dead.

The many friends of Dr. Smith Ely Jelliffe, the alienist, will sincerely regret the passing of his talented wife. Mrs. Jelliffe was an accomplished linguist and had been of material assistance to her husband in his literary work. She was born Helena Leeming and was educated at Barnard.

### Death of Dr. Kahlo.

In the death of Dr. George D. Kahlo at the premature age of 52 the medical profession loses an active and earnest member. As the medical director at White Sulphur Springs he showed great initiative and added largely to our knowledge of thermal treatment.

Dr. Kahlo was interested in all things medical. As dean of the College of Physicians and Surgeons of Indianapolis he was of material assistance in the elevation of medical standards in that State, and his entire professional career was marked by an upward trend.

### First University Dental School in New York for Columbia.

Realizing the importance of the teeth and mouth infections to systemic disease, the faculty of the College of Physicians and Surgeons has unanimously voted in favor of the establishment of a dental department, to be connected with the medical school. A committee of prominent dentists of the city has presented plans to the medical faculty which have been approved.

The school of dentistry will be closely associated with the medical school and the admission requirements will be the same as the medical. The course will be four years, the first two years the same as those in medicine, thus giving the dental student a thorough knowledge of the fundamental sciences necessary to the practice of a specialty of medicine. At the end of the second year the dental student will give all his time to the study of dental subjects, namely, operative dentistry, prosthetic dentistry, oral surgery and oral pathology, orthodontia, etc., and the more technical part of the work required for the well-trained dental surgeon. This new school will be the first university dental school in New York City, and the second in the State. It will give the first four-year course of dentistry ever given in the Empire State.

### A Combination of Journals.

The *American Journal of Gastroenterology* has combined with the *Proctologist*. The new journal is known as *The Proctologist and Gastroenterologist*. The editorial staff consists of: Dr. Rollin H. Barnes, St. Louis, proctology; Drs. Anthony Bassler, New York, and Lewis Brinton, Philadelphia, gastroenterology; and Dr. A. L. Benedict, Buffalo, dietetics. The journal, which will be issued quarterly, is welcomed as a valued addition to journalistic ranks.

The analysis of the carbon dioxide in the alveolar air spaces of the lungs affords an index of the degree of acidosis and a guide in treatment and prognosis.



## "The Ideal Tonic Reconstructive,"

says a well known physician, "is a malt extract that is sufficiently rich in diastase, maltose and other nutrient extractives to exert a marked influence on metabolic processes when taken into the body."

Many physicians have long realized this, but recent investigations emphasize as never before the almost specific utility of carbohydrates and diastase in a large proportion of nutritional disorders. As this fact has been established, the demand for a pure, high grade malt extract has extended, and in



*Interesting and  
useful literature  
on request*

### **TROMMER** **DIASTASIC MALT EXTRACT**

the medical profession have found a digestive tonic of broad usefulness. Made with the utmost care from the best and most carefully selected barley malt, for nearly half a century this pioneer extract of malt has been employed with conspicuous success in a wide variety of human ills characterized by nutritional decline, such as incipient tuberculosis, diabetes, starch indigestion, neurasthenia, and many other forms of debility.

In starch indigestion—the commonest of digestive derangements—Trommer Extract of Malt may be confidently relied upon to produce results of a most substantial and gratifying character.

The positive and far reaching effects of Trommer Malt Extract in a class of cases that make up so large a proportion of every day practice readily account, therefore, for its increasing use, whenever a dependable tonic and reconstructive is needed.

**THE TROMMER CO.,**

**Fremont, Ohio**

## LISTERINE

### In the treatment of Summer Complaints of Infants and Children

"The clinical basis of treatment is antisepsis and disinfection of the intestinal tract; not with a purpose to completely destroy the offending bacteria and their toxins, which we know to be neither possible nor necessary, but to assist the normal defenses of the body to gain the ascendancy."

"There are four principles of therapy which govern the treatment of these infections:

- "(a) To give the gastro-intestinal tract physiological rest."
- "(b) To remove as much as possible of the infective elements."
- "(c) To stimulate natural defenses."
- "(d) To reinforce these natural defenses with local antisepsis."

"By local antisepsis we can inhibit many of the pathogenic bacteria in the bowel before they enter the mucosa. The antiseptic agent must be selected with a view to certain requirements; for example, it must not be strongly acid. It must not coagulate mucin. It must not be astringent. It must be easily soluble and not upset osmotic conditions, and finally it must be non-irritant and non-toxic."

"Listerine answers to all these requirements and furnishes an ideal agent of local antisepsis in these cases. It has the additional advantage of being compatible with almost any other medicinal agent with which the physicians may desire to administer it."

The above is abstracted from a pamphlet entitled

#### "Acute Intestinal Infections of Children"

a copy of which we shall be pleased to send to physicians upon request

**Lambert Pharmacal Company,**

**2101 Locust St., St. Louis, Mo., U. S. A.**

### A War on Noise to Aid the Poor.

War against noise in New York is being urged on behalf of the overworked, and its purpose is to remove intolerable conditions of din and confusion, under which, it is claimed with plausibility, no one can do good work. One of the leaders in this new campaign is Mrs. Imogen B. Oakley, chairman of the Committee on Noise of the American Civic Association.

In an article contributed by Mrs. Oakley to *The National Municipal Review*, she classifies the noises to be heard in an ordinary town as avoidable and unavoidable. She says:

"We shall have to consider that the gongs of the automobiles and the trolley are, to a certain extent, unavoidable at present, but the international congress of aurists that met in Boston in 1913 maintained that all swift-moving vehicles should carry a horn emitting a musical note, or scale, and that this musical sound should be the same for all vehicles; the startling, clanging gong to be resorted to only in sudden danger to life.

"Bells and whistles can not be classed as unavoidable noises in the day of cheap and universally used clocks.

"We can find no excuse for the street-pianos. My correspondents from the tenements beg to have them suppressed.

"Street-venders can be silenced without injury to their trade if housekeepers will follow the advice offered by my correspondents from the tenements. Written notice, saying that ice, coal, fruit, vegetables, or what not, are desired within, can be placed in the window for all dealers in such commodities to see. This simple plan, which prevails in New England cities, saves time to the housekeeper and vocal energy to the vender, besides relieving from annoyance all that large class of people who do not desire to buy.

"Newsboys can sell as many papers by offering them quietly as by standing on corners and giving vent to inarticulate howls.

"Modern civilization brings with it much labor that can not cease with the going down of the sun. Shall the street-cleaners, telegraphers, night-watchmen, railway employees, toilers in iron and steel, printers, reporters, editors, doctors, nurses—shall all these great and growing armies of toilers that work through the night for the public comfort and convenience, be allowed to take their needful sleep during the day, or shall their rest be broken and their lives shortened by the utterly useless noises made by bells and whistles, shouting venders, shrieking newsboys, and blaring street-pianos? No one would be permitted as a means of advertisement to flash light into the weary eyes of these sleepers; yet venders, peddlers, newsboys, and grinders flash all manner of noises into their ears with impunity. If such noises are to go on, it must be in places where sleep is unnecessary and illness unknown."

### Controlling Cancer in England.

Portsmouth was the first municipality in England to undertake a public educational campaign for the control of cancer and it would appear that the measures adopted in 1913 are already taking effect. The annual report of the Medical Officer of Health, Dr. A. Mearns Fraser, for the year 1914, states that there were only 197 deaths from cancer in Portsmouth last year as compared with 230 in 1913. This decrease, which occurs in the face of an increase of population, is hailed with satisfaction by the Portsmouth sanitary authorities as justifying their efforts to reduce the cancer death rate by persuading persons who are attacked with this

disease to avoid delay and to seek treatment before it is too late for more than palliative measures.

When the educational measures were put in force two years ago, the cancer death rate of the city had for a long period been increasing. Twenty years ago the average death rate from cancer was 6.79 per 10,000 of the population, but in 1913 it had risen to 9.16. In that year the total number of deaths was only 34 less than were caused by tuberculosis. The Health Committee of the Town Council believed the present number of deaths was unnecessarily large, and they felt it incumbent to adopt measures to lessen the ravages of the disease. The authorities in 1913 began a campaign of public education under the official auspices of the Health Department. The methods adopted included the monthly publication in the local newspapers of articles regarding cancer and the printing and distribution of a circular on the subject. Arrangements were made for periodical lectures to midwives, nurses, and to those engaged in social work in Portsmouth. The Health Department further made provision for free microscopical examinations and reports on suspected cancerous growths in order to assist physicians in immediate diagnosis in the case of patients who were unable to pay for such laboratory service. The experience of the Portsmouth authorities had been that by far the majority of patients who presented themselves at hospitals suffering from cancer exhibited the disease in a stage too advanced to be cured. It was held that the reason for this delay in seeking advice was not as a rule because patients feared operations, but because they were ignorant that they were suffering from anything serious until they began to suffer pain. The fact that cancer at its onset is almost always painless should be widely realized in order that the public may learn the importance of other symptoms which will enable them to recognize the disease in the early stages when it can nearly always be successfully removed by competent surgery.

### Some Ocular Complications of Mumps.

Ramond and Goubert record some little known ocular complications of mumps met with by them in a military hospital. It is not surprising that ocular complications should occur in mumps when we bear in mind the close connection of the fundus of the eye with the membranes of the brain; in more than 50 per cent. of cases of mumps there is a more or less definite lymphocytosis present, according to some French observers. Out of 115 cases of mumps the writers found in 45 lacrymation of variable intensity, affecting chiefly the bulbar conjunctiva. Many patients complained of visual disturbances, ranging from mistiness of vision up to inability to read more than a line of the newspaper. In one case there was dacryo-adenitis. The fundi of 16 cases were examined: some showed a markedly increased rosy color of the optic disc; others a softness of the disc, with disappearance of its contour; others an appreciable swelling of the retinal veins; one case showed a congested iris, with a disturbance of the aqueous secretion. In one case there was definite papillary stasis. All these ocular complications were temporary; usually they disappeared with the disappearance of the inflammation of the parotid gland. But sometimes they persisted for a month after the recovery from the mumps. The prognosis is always favorable. In no case was albuminuria seen.—(*Bull. et mém. Soc. Méd. des Hôp. de Paris*, July 29, 1915.)

Thrombo-phlebitis in the arm and forearm should direct suspicion toward the deep vessels of the legs.